



Exhibit G

Compensatory Mitigation Plan

BALTIMORE-WASHINGTON SCMAGLEV PROJECT



COMPENSATORY MITIGATION PLAN DECEMBER 2020-Updated March 2021



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1 INTRODUCTION

The Federal Railroad Administration (FRA) is preparing a Draft Environmental Impact Statement (DEIS) for the SCMAGLEV Project jointly with the Maryland Department of Transportation (MDOT). The Project consists of the construction and operation of a high-speed SCMAGLEV train system between Washington, DC and Baltimore, MD with an intermediate stop at Baltimore/Washington International Thurgood Marshall (BWI) Airport. FRA and MDOT are developing the EIS in compliance with the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.* The Project encompasses portions of the District of Columbia (Washington, DC), Prince Georges County, Anne Arundel County, Baltimore County, and Baltimore City.

Twelve alternatives for alignment and placement of stations and structures were presented in the DEIS. While every attempt was made to avoid impacts to wetlands and waters of the U.S., the Sponsor's Proposal Alternative (Alternative J-03) would result in unavoidable impacts to natural resources regulated by the U.S Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act, and Maryland Department of the Environment (MDE) under the Maryland Nontidal Wetlands Protection Act and Tidal Wetlands Act and Program. Permits will be required from the USACE and MDE for unavoidable impacts to regulated resources.

The Draft Compensatory Mitigation Plan (CMP) presents the mitigation approach for the Sponsor's Proposal (DEIS alternative J-03). The report includes a summary of the wetland and waterway impacts, the mitigation requirements and the different types of proposed mitigation including mitigation banking and off-site permittee responsible mitigation. BWRR's SCMAGLEV Joint Permit Application is supported in part by information provided in the DEIS. Phase II Mitigation Design Plans for each site will be developed and included in the Final Compensatory Mitigation Plan (Final CMP).

2 IMPACTS TO WETLANDS AND WATERWAYS

2.1 Existing Wetlands and Waterways

A total of 211 acres of nontidal wetlands and 302 separate wetland features were delineated within the study boundary for Alternative J-03. Additionally, 85,538 linear feet including 223 separate segments of waterways were identified within the corridor study boundary for Alternative J-03. Field investigations were conducted for areas where property access was available, which accounted for approximately 70 percent of the total field investigation area. In areas of proposed surface and subsurface disturbances where property access was not granted, existing published information was used to approximate the boundaries of wetlands and waterways in lieu of field investigations/delineations. Data used consisted of Maryland Department of Natural Resources (MDNR) wetland mapping, U.S. Fish and Wildlife Services (USFWS) National Wetland Inventory (NWI), MDE stream mapping, and the U.S. Geological Survey (USGS) National Hydrologic Data (NHD). Locations and field data for the delineated features are found in Appendix A.

2.2 Impact Summary

Alternative J-03 would permanently impact a total of 22.6 acres of wetlands and 8,781 linear feet of waterways in the following three federal HUC-8 watersheds: Gunpowder-Patapsco (02060003) Middle Potomac-Anacostia-Occoquan (MPAO) (02070010), and Patuxent (02060006) watersheds. Wetland and waterway impacts are summarized by resource type in **Table 1** and

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shown by Federal HUC 8 and MDE 8-digit watersheds in **Table 3**. Detailed information on avoidance and minimization of impacts is included in the Avoidance, Minimization, and Impacts Report, which is an attachment to the Joint Permit Application.

Table 1: Wetland and Waterway Impacts for Alternative J-03

NON-TIDAL WETLANDS	PERMANENT		
	SF	AC	
Non-Tidal Wetland	460,052	10.56	
Non-Tidal Wetlands of Special State Concern (NTWSSC)	81,308	1.87	
Permanent Habitat Conversion (PFO to PEM)	444,271	10.20	
Total Wetland Impacts Requiring Mitigation	985,631	22.63	
25' Non-Tidal Wetland Buffer	374,279	8.59	
100' NTWSSC Wetland Buffer	120,791	2.77	
WATERWAYS	SF	AC	LF
Non-Tidal Waterways	38,009	0.87	8,353
NTWSSC Waterways	3,929	0.09	428
Total Waterways Impacts Requiring Mitigation	41,938	0.96	8,781
100' NTWSSC Waterways Buffer	8770	0.20	

2.3 Function & Value Impacts

Alternative J-03 has wetlands present that cumulatively include all 13 functions and values on the New England method datasheet. See Exhibit B, Section 7 for a summary of the functional analysis of the impacted wetlands. Ecological functions and values lost due to the proposed impacts vary based on several factors including the location, size, quality, and level of disturbance of the existing resource. All wetlands and waterways being impacted by Alternative J-03 provide one or more of the ecological functions listed below. Most of the impacted wetlands provide the following 6 functions to some degree:

- floodflow alteration,
- sediment/toxicant retention,
- sediment/shoreline stabilization,
- nutrient removal,
- wildlife habitat, and
- recreation.

Dominant aquatic resource functions to be lost from J-03 include (based on DEIS analysis):

- The loss of forest along waterways will directly affect water temperature regimes and in-stream/floodplain vegetation composition. Effects of potential changes to water temperature and vegetation changes would affect aquatic organisms and water quality, wildlife habitat and corridors, flood control and reducing the effects of nutrient runoff into waters.
- Presence of suitable habitat for several RTE fish species.
- RTE fish, odonate, and mussel species associated with Dorsey Run, Little Patuxent River, Patuxent River, Beaverdam Creek, and/or associated tributaries are particularly sensitive

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to sedimentation and siltation, disturbance to sand/gravel stream bed conditions, changes in hydrology, water quality degradation, increased stream temperatures, and loss of riparian vegetation. SCMAGLEV Project disturbance, including forest clearing, runoff from permanent structures, and stream crossings would result in direct and indirect impacts to RTE fish populations.

Additionally, the following unique habitat features have the potential to be impacted:

- Vernal pool systems notably identified on PRR property
- At PRR, BARC, and within NTWSSCs supporting RTE plant, odonate (dragonfly), and fish species, SCMAGLEV Project disturbance may result in direct impacts to rare natural communities and species populations that rely on forested uplands and wetlands, vernal pools, or riparian areas during any part of their life cycles.
- RTE fish, odonate, and mussel species associated with Dorsey Run, Little Patuxent River, Patuxent River*, Beaverdam Creek*, and/or associated tributaries are particularly sensitive to sedimentation and siltation, disturbance to sand/gravel stream bed conditions, changes in hydrology, water quality degradation, increased stream temperatures, and loss of riparian vegetation. SCMAGLEV Project disturbance, including forest clearing, runoff from permanent structures, and stream crossings would result in direct and indirect impacts to RTE fish populations.
* J-03 spans these waterways and associated tributaries; J-03 is in tunnel for the other waterways listed above.
- This may affect the breeding success of local amphibian populations, particularly for species only adapted to a shaded environment.
- RTE odonate species associated with these waterways are “considered highly sensitive to changes in hydrology and water quality, especially during their aquatic larval stages,” according to MDNR WHS (October 22, 2020 letter). Important habitat elements include streambed habitat and riffles, small headwaters for life cycle migratory patterns, and perching areas along the shoreline.
- Hydrology patterns in and surrounding any of the TMF sites in particular will be altered, which may influence seeps and low-lying areas that may support sensitive species.
- Large woody debris is prevalent within waterway, floodplain, wetland, and riparian forest areas throughout undeveloped portions of the project area, most notably at major waterway crossings, at PRR, BARC, Ft. Meade, and within NTWSSCs. Oxbow wetlands were observed associated with the larger waterway/floodplain systems, such as the Patuxent River.
- Valuable existing landscape/topographic variations and transitions between upland and wetland areas may be lost. These support vernal pools, provide shade and protection for aquatic habitat, and allow for needed transition areas of habitat that affect species presence and behavior.

Mitigation for Alternative J-03 will be achieved through projects that replace wetland and stream functions and values lost during construction. Of the identified viable Permittee Responsible mitigation sites, the four (4) mitigation sites that most effectively support the sustainability and/or improvement of aquatic resources in the Patuxent and Middle Potomac watersheds (considering watershed impairment) were selected for Phase 1 Development. All of the mitigation sites focus on water quality and habitat improvements that include stream stabilization, floodplain reconnection, wetland creation and restoration, wetland preservation, flood attenuation, and nutrient cycling. On a watershed scale, the proposed mitigation sites offset both functional losses associated with the SCMAGLEV impacts and trends in watershed impairment. Further, these

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mitigation sites are large-scale, and in developed areas of the watershed, further contributing to maintaining and improving the quality and quantity of aquatic resources in these watersheds. The selected mitigation sites are further described in Section 4.2 and Appendix B.

3 MITIGATION REQUIREMENTS

3.1 Determination of Mitigation Requirements

Compensatory mitigation for nontidal wetland and waterway impacts are determined based on a combination of factors including the function, value, and size of the resource. These mitigation requirements may be adjusted at the discretion of the USACE or MDE. Although tidal authorization for tunnel crossings under Anacostia, Gwynns Falls, and Patapsco Rivers are required for the project, mitigation is not required since no surface impacts related to underground tunneling are anticipated.

Wetland mitigation requirements are determined by the ratio of wetland acres replaced to wetland acres lost. Wetland mitigation requirements for Alternative J-03 were calculated based on MDE's standard replacement ratios, shown in **Table 2** below. These ratios include 1:1 replacement for farmed and emergent nontidal wetland (PEM) impacts as well as for habitat conversion and 2:1 replacement for forested (PFO), scrub-shrub (PSS), and emergent wetlands of Special State Concern (WSSC). A 3:1 replacement ratio was used for forested Nontidal Wetlands of Special State Concern. A 1:1 ratio was used for all waterway mitigation requirements. BWRR recognizes that proposed mitigation ratios are subject to agency approval.

Table 2: Mitigation Replacement Ratios

Impacted Resource Type	Replacement Ratio (acres replaced: acres impacted)
Palustrine Forested Wetland (PFO)	2:1
Palustrine Emergent Wetland (PEM)	1:1
PFO wetlands of Special State Concern (WSSC)	3:1
PEM wetlands of Special State Concern	2:1
Habitat Conversion Impacts	1:1
Waterway Impacts	1:1

3.2 Mitigation Requirements Summary

The standard mitigation ratios described in Section 3.1 were applied to the unavoidable permanent impacts resulting from the construction of Alternative J-03 to determine the mitigation needs for the project. A total of 35.3 acres of wetland mitigation credit and 8,781 linear feet of stream mitigation credit is required to compensate for Alternative J-03 impacts. Wetland and stream mitigation requirements in Maryland are summarized by federal HUC-8 and MDE 8-digit watersheds in **Tables 3a and 3b**.

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Table 3a: Wetland Impacts & Required Mitigation

Federal HUC-8 Watershed	MDE 8-Digit Watershed	Table 3a: Wetland Impacts and Mitigation														
		Non-Tidal Wetlands (SF)						Non-Tidal Wetlands of Special State Concern (NTWSSC) (SF)						Total Permanent Habitat Conversion (SF) (PFO to PEM)	REQUIRED MITIGATION	
		PFO		PEM		PUB		PFO		PEM		PUB				
		Impact	2:1*	Impact	1:1*	Impact	1:1*	Impact	3:1*	Impact	2:1*	Impact	2:1*		SF	AC
Gunpowder-Patapsco - 02060003	02103903	0	0	7,649	7,649	0	0	0	0	0	0	0	0	0	7,649	0.2
	02130906	0	0	5,835	5,835	4,840	4,840	0	0	0	0	0	0	0	10,675	0.2
															18,325	0.4
Patuxent - 02060006	02131104	27,832	55,665	402	402	0	0	47,917	143,750	0	0	0	0	208,943	408,760	9.4
	02131105	27,321	54,642	10,849	10,849	1,991	1,991	0	0	0	0	0	0	5,372	72,853	1.7
															481,613	11
Middle Potomac-Anacostia-Occoquan - 02070010	02140205	334,907	669,814	38,425	38,425	0	0	33,391	100,173	0	0	0	0	229,957	1,038,370	23.8
TOTAL		390,060	780,121	63,160	63,160	6,831	6,831	81,308	243,924	0	0	0	0	444,271	1,538,307	35.2

*Mitigation Ratio Requirement

Table 3b: Stream Impacts & Required Mitigation

Federal HUC-8 Watershed	MDE 8-Digit Watershed	Table 3b: Stream Impacts and Mitigation									
		Non-Tidal Waterways (LF)				Non-Tidal Wetlands of Special State Concern (NTWSSC) (LF)				REQUIRED MITIGATION(LF)	
		Perennial		Intermittent		Perennial		Intermittent			
		Impact	1:1*	Impact	1:1*	Impact	1:1*	Impact	1:1*	LF	
Gunpowder-Patapsco - 02060003	02103903	0	0	0	0	0	0	0	0	0	
	02130906	315	315	391	391	0	0	0	0	706	
	Subtotal									706	
Patuxent - 02060006	02131104	46	46	370	370	48	48	48	48	513	
	02131105	229	229	805	805	0	0	0	0	1,034	
	Subtotal									1,547	
Middle Potomac-Anacostia-Occoquan - 02070010	02140205	4,111	4,111	2,086	2,086	175	175	157	157	6,528	
TOTAL		4,701	4,701	3,653	3,653	223	223	205	205	8,781	

**Mitigation Ratio Requirement*

4 MITIGATION APPROACH

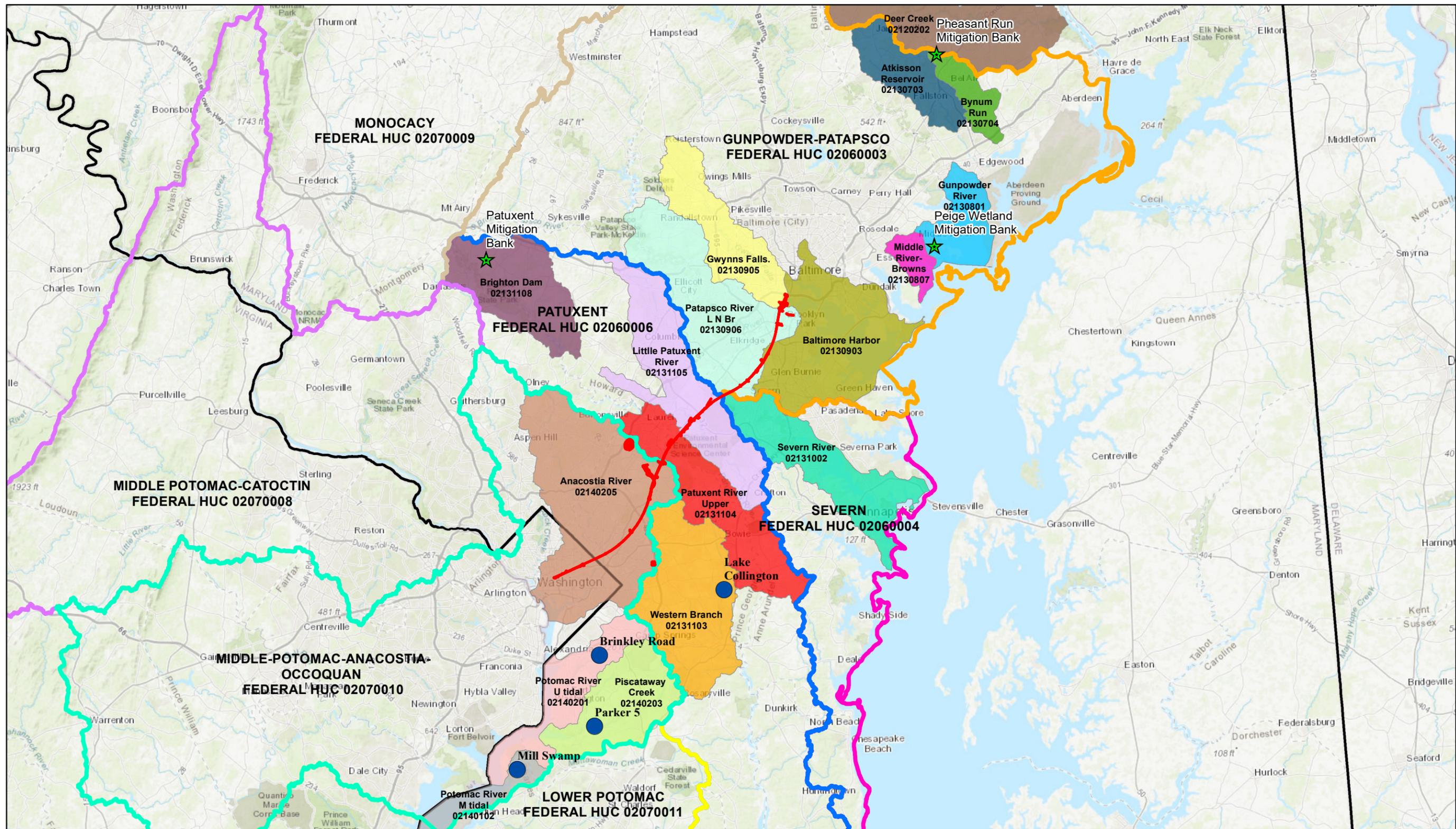
A watershed-based approach is presented in this draft CMP with the goal of identifying the available mitigation credit within the three federal HUC-8 watersheds impacted by Alternative J-03. These targeted watersheds include the Gunpowder-Patapsco (02060003), Middle Potomac-Anacostia-Occoquan (02070010), and Patuxent (02060006). The mitigation approach follows the Federal Mitigation Rule (40 CFR 230.91-98) hierarchy, beginning with mitigation banking and in-lieu fee programs, and followed by permittee-responsible mitigation. Multiple options and excess mitigation credit were researched and are presented to demonstrate BWRR’s potential avenues to provide the appropriate compensatory mitigation within each impacted watershed. No in-lieu fee programs were identified within the targeted watersheds. Three pending mitigation banks were identified in USACE’s Regulatory In-lieu fee and Bank Information Tracking System (RIBITS) database in the Patuxent and Gunpowder-Patapsco watersheds that can potentially be used to compensate for impacts in these targeted watersheds. Permittee-responsible mitigation (PRM) opportunities are also presented in this draft CMP as potential mitigation to account for the uncertainty in the timing of bank credit release relative to the project’s construction schedule. As

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there are no currently available or pending mitigation banks within the Middle Potomac-Anacostia-Occoquan watershed, permittee-responsible mitigation opportunities within the watershed were identified to achieve the mitigation requirements. Mitigation credit opportunities are summarized in **Table 4**.

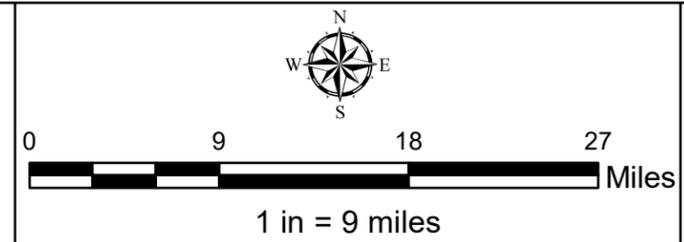
Table 4: Mitigation Opportunities Summary by Watershed (Bank & PRM)

Watershed		Mitigation Requirements		Potential Credit Availability (Bank & PRM)			
Federal HUC	MDE 8-Digit Watershed	Wetland (Ac)	Stream (linear feet)	Wetland Mitigation Bank Credits Pending/ Available	Stream Mitigation Bank Credits Pending/ Available	Wetland PRM Credits	Stream PRM Credits
Gunpowder -Patapsco - 02060003	02103903	0.2	0	0	0	0	0
	02130906	0.2	706	0	0	0	0
	02130802	0	0	24.6	5233	0	0
	02130801	0	0	9.9	0	0	0
	Subtotal	0.4	706	34.5	5,233	0.00	0.00
Patuxent - 02060006	02131104	9.4	513	0	0	0	0
	02131105	1.7	1,034	0	0	0	0
	02131108	0	0	34	10,400	0	0
	02131103	0	0	0	0	16.1	4,202
	Subtotal	11.1	1,547	34.0	10,400	16.1	4,202
Middle Potomac-Anacostia-Occoquan - 02070010	02140205	23.8	6,528	0	0	0	0
	02140203	0	0	0	0	15.4	4,480
	02140201	0	0	0	0	6.0	2,019
	02140102	0	0	0	0	9.95	3,239
	Subtotal	23.8	6,528.4	0.0	0.0	31.4	9,738
Total		35	8,781	68.5	15,633	47.4	12,852



Federal 8-Digit Watersheds	MDE 8-Digit Watersheds
Middle Potomac-Anacostia-Occoquan	02120202
Patuxent	02130703
Middle Potomac-Catoctin	02130704
Gunpowder-Patapsco	02130801
Lower Potomac	02130807
Monocacy	02130903
Severn	02130905
	02130906
	02131002
	02131103
	02131104
	02131105
	02140102
	02140201
	02140203
	02140205

- Greenvest Mitigation Sites
- ★ Mitigation Banks
- SCMAGLEV Project
- Maryland Boundary



MAGLEV COMPENSATORY MITIGATION

AVAILABLE OPPORTUNITIES FOR MITIGATION PROJECTS WITHIN FEDERAL & STATE 8-DIGIT HUC WATERSHEDS

BWRR

WSP

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4.1 Mitigation Banking & In-Lieu Fee Programs

Mitigation banking and in-lieu fee programs were identified to potentially provide compensation for unavoidable impacts from Alternative J-03. No in-lieu fee sites were identified in the impacted watersheds. BWRR intends to use mitigation banks to the greatest extent they are available to meet project needs. Three potential mitigation banking sites were identified in the USACE's RIBITS database within the Gunpowder-Patapsco and Patuxent watersheds. Within the Gunpowder-Patapsco watershed, the Peige mitigation bank will potentially have 9.8 wetland mitigation credits available, and the Pheasant Run mitigation bank will have 24.64 wetland and 5,233 stream credits available. The Patuxent mitigation bank is a pending bank within the Patuxent watershed that will potentially have 34.0 wetland mitigation credits and 10,400 stream mitigation credits available for purchase. In total, 68.44 wetland and 15,633 stream mitigation credits will potentially be available from these banks to use as compensatory mitigation for SCMAGLEV impacts. Preliminary conversations with the bankers indicate that the credits will be released in varying amounts between 2022-2032. BWRR will negotiate with the banker to confirm credits and confirm credit use with the USACE, if timing of credit availability aligns with the project needs. As shown below in **Table 5**, these banks could adequately provide sufficient stream and wetland mitigation credit in the Patuxent watershed and in the Gunpowder-Patapsco watershed. These banking options will be further considered and outlined in the Phase 2/Final Mitigation Plan. The mitigation banks identified are summarized in **Table 5**. Bank locations are shown on **Figure 1**.

Table 5: Potential Mitigation Banking Sites

Mitigation Banking Site ID	Permit Number	Federal HUC/ Primary Service Area	MDE 8 Digit Watershed	Mitigation Requirements		Potential Mitigation Credit Availability	
				Stream	Wetland	Pending Stream Mitigation Credits	Pending Wetland Mitigation Credits
Patuxent (Cabin branch)	2019-00263	02060006 (Patuxent)	2131108	0	0	10,400	34.0
	N/A		2131104	513	9.4	0	0
			2131105	1,034	1.7	0	0
	N/A		Subtotal	1,547	11.1	10,400	34.0
Peige Wetland Mitigation	2016-01568	02060003 (Gunpowder-Patapsco)	2130801	0	0	0	9.8
Pheasant Run	pending		2130802	0	0	5,233	24.6
			2130906	706	0.2	0	0
			02130903	0	0.2	0	0
			Subtotal	706	0.4	5,233	34.4
Total				2,253	11.5	15,633	68.4

4.2 Permittee-Responsible Mitigation

Four permittee-responsible mitigation (PRM) sites are proposed to provide compensatory mitigation credit required to construct Alternative J-03. Three sites in the Middle Potomac-

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Anacostia-Occoquan federal HUC will be developed to meet the mitigation needs within this watershed. One site in the Patuxent federal HUC has been identified that would meet the compensatory mitigation needs in this watershed. The proposed PRM sites are listed in **Table 6** and described in greater detail in **Section 5.0** and **Appendix B**.

Table 6: Permittee- Responsible Mitigation Sites

Mitigation Site	Federal HUC	MDE Watershed	Mitigation Requirements		Proposed PRM Mitigation Credit		
			Stream Mitigation Requirements	Wetland Mitigation Requirements	Proposed Stream Mitigation Credits	Proposed Wetland Mitigation Credits	
Parker Lane	02070010 (Middle Potomac-Anacostia-Occoquan)	02140203			4,480	15.44	
Brinkley Road		02140201			2,019	5.98	
Mill swamp expansion		02140102			3,239	9.95	
		02140205			6,528	23.8	
		Subtotal	6,528	23.8	9,738	31.37	
Lake Collington	02060006 (Patuxent)	02131103			4,202	16.06	
		02131104			513	9.4	
		02131105			1034	1.7	
		Subtotal			1,547	11.1	4,202
Grand Total			8,075	35	13,940	47.43	

5 PERMITTEE-RESPONSIBLE MITIGATION

BWRR has identified four permittee-responsible mitigation (PRM) sites for inclusion in this draft compensatory mitigation plan. Sites with the greatest mitigation potential were selected. In total, these sites have the potential to provide 47.43 acres of wetland credit, and 13,940 linear feet of stream mitigation credit. When counted with the potential mitigation bank credits, the identified credits exceed the total mitigation requirement calculated for Alternative J-03. Excess credit potential is included in the Draft CMP because of the uncertainty around the timing of bank credit availability, and to provide backup in case any flaws are discovered during design and development of the sites that prevent the site from progressing to construction in a timely manner.

5.1 Site Search Summary

GreenVest, LLC (GV) is providing BWRR with stream and wetland PRM sites for the SCMAGLEV project. As noted in the Joint Permit Application, impacts to wetlands and waterways occur within three Federal 8-digit hydrologic unit codes (HUC8) watersheds: Patuxent (02060006), Middle Potomac-Anacostia-Occoquan (02070010), and Gunpowder-Patapsco (02130802). Impacts occur across four Maryland 8-digit watersheds: Patuxent River Upper (02131104) and Little Patuxent River (02131105) within the Patuxent Federal HUC8 watershed, Anacostia River (02140205) within the Middle Potomac Federal HUC8 watershed, and Patapsco River (02130906) within the Gunpowder Federal HUC8 watershed.

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To provide mitigation for these impacts, GV has followed the State and Federal guidance for selection of suitable mitigation sites. According to the January 2020 Components of a Compensatory Mitigation Plan - Guidance for Developing Wetland and Waterway Mitigation in Maryland, "...onsite mitigation or a mitigation site within the same 8-digit state watershed as the impact is generally preferable." While impacts to wetlands and waterways have been avoided to the maximum extent possible, the narrow, linear nature of the SCMAGLEV project area means that onsite mitigation is not feasible.

GV then searched for stream and wetland mitigation credit availability at commercial mitigation banks. According to state and federal mitigation rules, mitigation banks must be within the same Federal HUC8 watershed as the impacts. There are no mitigation banks in the Middle Potomac. Within the Patuxent, there is one (1) active mitigation bank and one (1) pending mitigation bank. The Cage Farm Mitigation Bank is the only active mitigation bank and is a single user mitigation bank for the benefit of Calvert County. Mitigation credits developed at this bank site are not available to BWRR. The Patuxent Mitigation Bank is a pending mitigation bank that does not currently have an approved mitigation bank instrument (MBI) and no mitigation credits are currently available from the bank. BWRR is currently coordinating with the bank owner regarding MBI approval and anticipated credit release schedules; however, based on coordination, it is expected that the credit release schedule will align with the Project and will be a viable mitigation option in the Patuxent watershed. One PRM mitigation site is proposed in the Patuxent as part of this Draft CMP as a back-up in the event the mitigation bank credits are not available when needed. BWRR will work through the options with the banker and the agencies towards a final mitigation plan. As a result of the lack of mitigation banks in the Middle Potomac watershed, permittee responsible mitigation is required for the proposed SCMAGLEV impacts.

Unlike mitigation banks, permittee responsible mitigation is preferred to be within the same Maryland 8-digit watershed as the impacts. If no feasible mitigation sites can be found within the same Maryland 8-digit watershed, mitigation can be located within other Maryland 8-digit watersheds if it is "...located in a setting of comparable landscape position, hydrogeomorphic regime and climate, and physiographic province of the impacted waters to increase the potential that the mitigation site mimics the functions lost" (MDE, 2020). GV performed a search of potential off-site mitigation locations with the potential to replace lost functions and resource types beginning within the Maryland 8-digit watersheds where the proposed impacts are to occur. The search was initially conducted in proximity to the SCMAGLEV corridor and then further afield as potential sites were determined to be unfeasible. Although feasible mitigation sites could not be identified within the Maryland 8-digit watersheds where the proposed impacts will occur, GV identified four (4) scalable mitigation sites to provide stream and wetland mitigation for the SCMAGLEV project in other Maryland 8-digit watersheds located within the same two Federal HUC8 watersheds as the impacts. The site search methods and results are presented below.

5.1.0 Initial Search Results

The SCMAGLEV runs from downtown Washington, D.C. to downtown Baltimore, Maryland, and parallels MD Route 295 (Baltimore-Washington Parkway) through most of its proposed alignment. Land use/land cover within this corridor is a combination of residential, transportation, forest, commercial, and federal. This area is one of the most urbanized in the state of Maryland. Due to the high cost of real estate through this highly urbanized corridor, there is very little agricultural or other open land available in upland or lowland settings. There is a dearth of suitable mitigation sites and particularly those of scale (greater than five acres) that could generate the total

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anticipated nontidal wetland mitigation units and stream mitigation required by BWRR. In the case of any mitigation project, scale plays a critical role in its viable establishment, operation, and self-maintenance. Scale is even more important given the amount of stream and wetland mitigation needed by BWRR for the SCMAGLEV Project.

In addition to scale, other key factors in site selection included restoration feasibility and likelihood for success, site connectivity, site accessibility, potential for “in-kind” (emergent, scrub-shrub or forested habitat) replacement of lost functions, potential impacts to other resources, landowner willingness to participate in the mitigation project, existing easements and encumbrances, and potential for traditional development. Note that the Watershed Approach to Replacing Lost Acreage & Function (Section 1.2) and Environmental Justice (Section 1.3) was also considered.

GV’s core business model is securing land to develop and fully-deliver compensatory mitigation and other ecological assets to public and private entities. As such, GV is constantly searching for, and securing access to, land suitable for restoration and mitigation. GV has actively searched for mitigation sites in the Middle Potomac and Patuxent watersheds for more than 5 years and has developed an extensive database of potential mitigation sites. This database was developed through site search efforts that focused on the development of “in-kind” stream and wetland mitigation for a variety of nontidal wetland types (e.g., emergent, scrub-shrub, and forested). The search aimed to identify properties with wetland creation, restoration, and enhancement opportunities along with degraded aquatic resources (i.e., streams) with high potential for functional improvement through the development of self-sustaining restoration, creation, and enhancement activities. Preservation of existing high quality and functioning resources was also a consideration in site identification. The site search included disturbed areas, areas in agricultural production, former wetland areas that may now be degraded, areas adjacent or connected to existing nontidal wetlands, waterways or within the 100-year floodplain, sites with mapped hydric soils, and areas that are accessible to necessary construction equipment.

Middle Potomac Federal HUC8 Watershed

Within the Middle Potomac, sites were evaluated based on proximity to the proposed SCMAGLEV impacts, with preference to sites located within the same Maryland 8-digit watershed as the impacts. The impacts in the Middle Potomac are located entirely within the Anacostia River Maryland 8-digit watershed (02140205). A total of ten (10) potential mitigation sites were identified in the Anacostia River Maryland 8-digit watershed and evaluated further as potential mitigation sites for SCMAGLEV. None of the feasible mitigation sites identified within the Anacostia River watershed could be pursued because of lack of landowner interest, planned site development, likelihood for success, site connectivity, scale, site accessibility, and/or potential for “in-kind” replacement of lost functions. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided in Appendix D of this Exhibit.

Consistent with the Nontidal Wetland Mitigation Site Search Requirements (MDE, 2018), the site search was expanded to include the entire Middle Potomac Federal HUC8. A total of forty-five (45) additional sites were identified within the Middle Potomac HUC8 watershed. Of these sites, five (5) potential mitigation sites were identified. Of these, two (2) could not be pursued for SCMAGLEV mitigation (or were not preferred based on site selection criteria) and three (3) mitigation sites were selected. A summary of site search information for each potential mitigation site identified in the Middle Potomac Federal HUC8, including the reason(s) the site could not be

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pursued, is included in Appendix D of this Exhibit. This site search summary excludes the selected sites which are presented in Section 1.4.

Patuxent Federal HUC8 Watershed

Within the Patuxent, sites were evaluated based on proximity to the proposed SCMAGLEV impacts, with preference to sites located within the same Maryland 8-digit watersheds as the impacts. The impacts in the Patuxent are located within the Little Patuxent River (02131105) and Patuxent River upper (02131104) Maryland 8-digit watersheds.

Within the Little Patuxent River and Patuxent River upper Maryland 8-digit watersheds, a total of nineteen (19) potential mitigation sites were identified and evaluated further as potential mitigation sites for SCMAGLEV. Of these, eight (8) are in the Little Patuxent River watershed and eleven (11) are in the Patuxent River Upper watershed. None of the potential mitigation sites identified within the Little Patuxent River and Patuxent River upper watersheds could be pursued because of lack of landowner interest, planned site development, likelihood for success, site connectivity, site accessibility, and/or potential for “in-kind” replacement of lost functions. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided in Appendix D of this Exhibit.

Consistent with the Nontidal Wetland Mitigation Site Search Requirements (MDE, 2018), the site search was expanded to include the entire Patuxent Federal HUC8. A total of sixty (60) additional sites were identified within the Patuxent HUC8 watershed. Of these sites, seventeen (17) sites were located over 20 miles from the impact sites and were eliminated due to proximity, leaving forty-three (43) potential mitigation for further evaluation. Of these, forty (40) could not be pursued for SCMAGLEV mitigation (or were not preferred based on site selection criteria) and one (1) mitigation site was selected. A summary of site search information for each potential mitigation site identified in the Patuxent Federal HUC8 within 20 miles of the impacts, including the reason(s) the site could not be pursued, is included in Appendix D of this Exhibit. This site search summary excludes the selected site which is presented in Section 5.1.3.

See **Appendix D** for a detailed description of site search activities.

5.1.1 Watershed Approach to Replacing Lost Acreage & Function

To select the mitigation sites that are appropriate to for the SCMAGLEV Project from the mitigation sites evaluated in Section 5.10, GV employed a watershed approach. The objective of the watershed approach to site selection is to select the sites that will provide the most benefit to the watershed considering watershed impairments and trends within the watershed related to habitat loss, water quality, and development.

Many of the elements of a watershed approach to site selection are site search parameters described in Section 5.1.0 In addition, GV referenced available watershed plans for the Patuxent River and the Middle Potomac River watersheds developed by a variety of public and private entities including the Maryland State Highway Administration, Anne Arundel County, and Prince George’s County. Specific watershed plans referenced in the watershed approach to siting the mitigation include the following:

- *2017-2018 Biennial Report - Implementation of the Patuxent River Policy Plan* prepared by Maryland Department of Planning with the Patuxent River Commission. March 2019.

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- *Upper Patuxent River Sediment TMDL Restoration Plan* prepared by Anne Arundel County. November 2016.
- *Non-Tidal Patuxent River Lower and Middle Watersheds Sediment TMDL Restoration Plan* prepared Anne Arundel County. January 2020.
- *Restoration Plan for Nontidal Sediment in the Patuxent River Lower and Middle Watersheds* prepared by Prince George's County. July 2019.
- *Impervious Restoration and Coordinated Total Maximum Daily Load Implementation Plan (Patuxent River Upper Watershed & Potomac River Montgomery County Watershed)* prepared by Maryland Department of Transportation, State Highway Administration Watershed Implementation Plan. October 2016.
- *Watershed Existing Condition Report for the Potomac River Watershed* prepared by Prince George's County. December 2014.

These watershed plans identify the predominant watershed impairments and the proposed restoration plan/goals aimed at addressing the impairments. In these watersheds, the primary impairments are related to total maximum daily load (TMDL) of sediment and nutrients (nitrogen and phosphorous). As noted in Section 1.1, these watersheds are among the most developed in Maryland and the historic development trend continues resulting in the construction of additional impervious surface, habitat loss, and impacts to aquatic resources.

Of the identified viable mitigation sites, GV selected the four (4) mitigation sites that most effectively support the sustainability and/or improvement of aquatic resources in the Patuxent and Middle Potomac watersheds (considering watershed impairment). All the mitigation sites focus on water quality and habitat improvements that include stream stabilization, floodplain reconnection, wetland creation and restoration, wetland preservation, flood attenuation, and nutrient cycling. On a watershed scale, the proposed mitigation sites offset both functional losses associated with the SCMAGLEV impacts and trends in watershed impairment. Further, these mitigation sites are large-scale, and in developed areas of the watershed, further contributing to maintaining and improving the quality and quantity of aquatic resources in these watersheds. The selected mitigation sites are described in Section 5.1.3.

Each mitigation site has stream and wetland restoration components. Preliminarily, each site was evaluated for both stream and wetland functional improvement which were compared against the impacts and functional losses associated with the SCMAGLEV Project impacts. A more detailed comparison of anticipated functional losses associated with the SCMAGLEV Project impacts to the functional gains provided in each mitigation site will be provided in the Phase II mitigation plan and will consider more detailed functional assessment to be completed on both the impact and mitigation sites. We are confident that these mitigation projects will provide sufficient functional improvement to offset the proposed functional losses.

Stream restoration will be assessed using the Maryland Stream Mitigation Framework (MSMF). Note that MDE and USACE are currently developing the MSMF as a standard tool for assessing stream functional improvement in mitigation projects. GV, in coordination with MDE and USACE, has effectively used it on other mitigation projects. The stream restoration functional improvement will be completed as part of the Phase II Mitigation Plan.

Wetland restoration will be assessed using a wetland functional assessment methodology to be determined in coordination with MDE and USACE. GV, in coordination with MDE and USACE,

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has effectively used the Evaluation of Planned Wetlands (EPW) method of assessing wetland function and functional improvement on other mitigation projects. MDE and USACE are currently developing a standard wetland functional assessment tool. GV will use EPW unless the MDE and USACE wetland functional assessment tool is available at the time the Phase II is being prepared. The wetland functional assessment will be completed as part of the Phase II Mitigation Plan.

5.1.2 Environmental Justice

GV considered environmental justice in the selection of the four (4) mitigation sites to ensure that where SCMAGLEV impacts occur in communities of color and low-income communities, the mitigation is completed in similar areas. This was evaluated using the demographic data from the EPA Environmental Justice Screen and Mapping and Mapping Tool (EJSCREEN) for census block groups in the state of Maryland. A demographic index was determined from this data by averaging the percent population of color and percent low-income population for each census block group. This demographic index percentage is then compared to all the census block groups in the state of Maryland, resulting in the percentiles that characterize each census block group in comparison to the other census block groups across the State. A high demographic index indicates populations with high percentage of color and low-income communities.

In the Middle Potomac watershed, the SCMAGLEV impacts are predominantly located in high demographic index areas. In the Patuxent watershed, SCMAGLEV impacts were predominantly located in medium demographic index areas. As a result, the mitigation site search preference was for mitigation sites located within high or medium demographic index areas. Two (2) of the four (4) selected mitigation sites are in high demographic index areas, one (1) mitigation site is in a medium demographic index area on the border with a high demographic index area, and one (1) mitigation site is in a medium demographic index area, meeting the mitigation site selection environmental justice goal. The location of the selected mitigation sites and approximate location of the proposed SCMAGLEV impacts are depicted on demographic index maps for the Middle Potomac and Patuxent watersheds included as Appendix D to this Exhibit.

5.1.3 Selected Sites

GV selected four (4) mitigation sites based on the site search, watershed approach assessment, and environmental justice considerations. GV has secured access to each for the purposes of developing compensatory mitigation for the SCMAGLEV Project. These four (4) sites were selected specifically for their location, scale and restoration potential which collectively are well aligned with the SCMAGLEV mitigation requirements. These sites are in the Middle Potomac and the Patuxent watersheds and comprise a total of 185 acres of land. Combined, these mitigation sites have the potential to generate over 47 wetland mitigation units and over 13,900 linear feet of stream mitigation. Note that this exceeds the SCMAGLEV mitigation requirements. Planning for the development of mitigation credit in excess of the required mitigation ensures that sufficient mitigation will be provided in anticipation of potential variations in the underlying SCMAGLEV Design, developmental constraints on any of the individual mitigation sites, and determination of restoration approach and final credit ratios. Table 7 summarizes the selected mitigation sites and mitigation site locations are depicted on Figure 1. The selected mitigation sites are described in detail in Sections 4 through 7 of the Phase I Mitigation Plan. Supporting documentation for each site is included as Attachments 1 through 4 of the Phase I Mitigation Plan (Appendix B).

Table 7: Summary of Potential Mitigation at Selected Mitigation Sites

Mitigation Site	Watershed	Land Area (acre)	Stream (LF)	Wetland Units
Parker Lane	Middle Potomac	50	4,480	15.44
Brinkley Road	Middle Potomac	15	2,019	5.98
Mill Swamp Expansion	Middle Potomac	40	3,239	9.95
Lake Collington	Patuxent	80	4,202	16.06
Totals:		185	13,940	47.43

Additional information on the site selection process is provided in **Appendix D**. Phase I mitigation sites are listed in **Table 7** and a vicinity map of the proposed sites is included as **Figure 1 in Appendix B**. Phase I Mitigation Concept Design Plans and additional information for each site are presented in **Appendix B**.

5.2 Twelve Mitigation Plan Components

In accordance with 33 CFR part 322 Compensatory Mitigation for Losses of Aquatic Resources dated April 10, 2008, the following section discusses the universal fundamental components that apply to all Permittee-responsible mitigation sites that are proposed in this draft CMP. Site specific fundamental components (objectives, baseline information, determination of credits, mitigation work plan, maintenance plan, and monitoring requirements) will be discussed in further detail in the Phase II Mitigation Design Plans that will be developed with the Final CMP.

Project Objectives

Project objectives for the proposed mitigation sites are found in the Phase I Mitigation Design Plans in **Appendix B**. Project objectives are site specific and will be further developed for each site in the Phase 2 Final Mitigation Plans (FMP).

Site Selection

A watershed-based approach was used to find sites that would mitigate for the wetlands and waterways that would be impacted by the construction of Alternative J-03. Sites were selected for their location within impacted watersheds and potential for success. A detailed description of the site selection process that was used to identify PMR sites in the MPAO and Patuxent watersheds is found in Section 5.1.

Site Protection Instrument

The legal right to develop mitigation on the sites selected for this mitigation package has been obtained in the form of Rights of Entry (ROE), Letters of Agreement (LOA), Easement Agreements and/or acquisition of fee title for each property selected. The site protection instrument will either be in the form of a Conservation Easement or Declaration of Restrictive Covenants and will meet the requirements of MDE’s templates for these documents (**Appendix C**). The required documentation of legal site control will be provided with the Phase 2 FMP.

Baseline Information

Preliminary baseline information for each mitigation site is included in the Phase I Mitigation Design Plans in **Appendix B**. Further detailed information, including wetland delineations, surveys, groundwater well data, etc., will be collected for each of the sites during the development of the Phase 2 FMP.

Determination of Credits

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Mitigation credit requirements for Alternative J-03 is included in Section 4. A total of 32.65 acres of wetland mitigation credit and 9,103 linear feet of stream mitigation credit is required for Alternative J-03. Mitigation requirements will be met through the purchase of bank credits as available and permittee responsible mitigation. Excess credit is identified in the draft CMP to demonstrate BWRR's ability to meet mitigation credit requirements.

Mitigation credits for the proposed mitigation sites are site specific and is provided in the Phase I Mitigation Design Plans in **Appendix B**.

Mitigation Work Plan

The Phase I Mitigation Design Plans for each site are included in **Appendix B**. Work plan details including construction methods, construction access, timing and sequence of construction, and erosion and sediment control measures will be included the Phase 2 FMP.

Maintenance Plan

During construction and while in the monitoring period, mitigation sites will be regularly inspected to determine the progress and continued viability of the project. The post-monitoring period for each of the sites will be coordinated with the agencies and determined during the development of the Phase 2 FMP. BWRR will be responsible for preparing a remediation plan that will be submitted for agency approval.

Performance Standards

The mitigation sites will have ecologically-based performance standards that are tied to site specific objectives and values that will be developed during the Phase 2 FMP. Performance standards for the mitigation sites will be in accordance with the *Performance Standards and Monitoring Protocol for Permittee-responsible Nontidal Wetland Mitigation Sites in Maryland, 2020*.

Monitoring Requirements

Monitoring requirements will be negotiated with the agencies and determined for each mitigation site during the development of the Phase II FMP. All wetland sites will be evaluated in accordance with the *Performance Standards and Monitoring Protocol for Permittee-responsible Nontidal Wetland Mitigation Sites, 2020*.

Long-term Management Plan

Covenants and Restrictions will be placed on each of the mitigation sites to protect the sites in perpetuity. BWRR will be responsible for long term management of the sites and will provide an approach for the long-term management of the sites for review by MDE and USACE to be submitted with the Phase 2 FMP.

Adaptive Management Plan

The Adaptive Management Plan for all mitigation sites will include monitoring the site, analyzing the site for success and having contingencies in place for changes in site conditions to address deficiencies or changes in management strategies and objectives. If deficiencies are found, remedial action will occur, and additional monitoring will take place to ensure success. If the mitigation goals of the site are not being met, an Adaptive Management Plan will be developed to assess and remediate the problem. Depending on the problem, the plan could include various assessments such as:

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- Adjustment of monitoring schedule based on site conditions.
- Additional hydrologic monitoring.
- Hydrologic adjustment.
- Invasive species treatment recommendations.
- Vegetation protective measures.
- Supplemental plantings.
- Soil amendments.
- Animal control/protection (beaver/deer/Canada goose, etc.)

Financial Assurance

BWRR will be responsible for funding all aspects of the mitigation projects and will provide detailed description of financial assurances and how they are sufficient to ensure a high level of confidence that the mitigation project will be successfully completed, in accordance with the performance standards in the Phase 2 FMP.



Appendix A - Wetland Delineation Tables

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
WASHINGTON METROPOLITAN WATERSHED									
	WL193	I	R2SB	Perennial	Flows to Unnamed Tributary (UT) to Brier Ditch, confluent to Northeast Branch (NEB) Anacostia River, a Traditional Navigable Water (TNW)	Cobble, Gravel, Sand, Silt, Rip Rap	Waterway flows from culvert northwest into WL186.	4	4
	WL186	I	R5UBH	Perennial	Flows to Brier Ditch, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows east out of study area. Waterway has undercut banks and severe bank erosion.	10	5
	WL185	I	R4SB	Intermittent	Flows to UT to Brier Ditch, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Rip Rap	Waterway flows northeast. Stream is culverted on southwest end and rip rap occurs throughout the length of the stream.	8	2
	WL189	I	R4SB	Intermittent	Flows to UT to Brier Ditch, confluent to NEB Anacostia River (TNW)	Silt	Waterway flows west into WL186.	3	2
	WL324	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows west into a culvert under the Baltimore-Washington Parkway (BW Pkwy).	8	3
	WL327	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows north to WL324.	1	1
	WL323	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Silt, Muck	Waterway flows out of a culvert under BW Pkwy and flows northeast into WL324.	5	6
	WL328	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows south through WP326 and into WL324.	1	1
	WL134	I	R4SB	Intermittent	Likely flows to UT of Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway flows northwest out of study area.	5	1

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL135	I	R4SB	Intermittent	Likely flows to UT of Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway flows west into WL134.	3.5	1.5
	WL136	I	R4SB	Intermittent	Flows to Beck Branch via WP133, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand	Waterway flows northeast into WP133.	2	1.5
	WL129	I	R5UBH	Perennial	Beck Branch is confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway is Beck Branch and a continuation of WL118. Waterway flows northwest out of study area into a culvert under the BW Pkwy.	12	4
	WL118	I	R5UBH	Perennial	Beck Branch is confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is Beck Branch and a continuation of WL129. Waterway flows west out of study area.	9	4
	WL116	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Silt, Muck	Waterway is roadside drainage, and flows west to WL114.	5	6
	WL114	I	R5UBH	Perennial	Beaverdam Creek is confluent to NEB Anacostia River (TNW)	Sand, Silt, Muck	Waterway is Beaverdam Creek and a continuation of WL131. Waterway is abutted by WP115.	10	4.5
	WL131	I	R5UBH	Perennial	Beaverdam Creek is confluent to NEB Anacostia River (TNW)	Sand	Waterway is Beaverdam Creek and a continuation of WL114. Waterway flows west out of the study area and is abutted by WL068.	11	3.5
	WL411	I	N/A	Ephemeral	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows west through WP128 until going underground. Waterway likely receives flow from WL410 and contributes sheet flow to adjacent WL131 (Beaverdam Creek) via WP128.	3	1.5
	WL410	I	N/A	Ephemeral	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt, Roots	Waterway flows north into WL131 (Beaverdam Creek). Waterway also contributes sheet flow to adjacent wetland WP128.	2	0.5
	WL132	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Silt	Waterway flows south into WL131.	1.5	2

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL067	I	R4SB	Intermittent	Coveys flow to Beaverdam Creek via WP068 and WL132, confluent to NEB Anacostia River (TNW)	Gravel, Sand, Silt	Waterway flows south from culvert under BW Pkwy into WP068.	6.5	1
	WL121	I	R4SB	Intermittent	Likely flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway flows east out of study area. Stream is culverted under the power lines.	4	8
	WL122	I	R4SB	Intermittent	Likely flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows southeast into WP124. Stream is culverted under the power lines.	6	2.5
	WL123	I	R4SB	Intermittent	Likely flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows southwest into WL122.	6	2
	WL211	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows south into WL214 (UT to Beaverdam Creek).	4	1
	WL216	I	N/A	Ephemeral	Flows to WP212E, which flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows southeast into the WP212 series of wetlands, which drain into WL304 (Beaverdam Creek).	2	1
	WL205	I	N/A	Ephemeral	Nexus to TNW unknown	Cobble, Gravel	Waterway flows east from headcut to a riser structure in an unmaintained agriculture field.	5	4
	WL215	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows north into WL214 (UT to Beaverdam Creek).	4	1.5
	WL214	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is UT to Beaverdam Creek. . Waterway flows west from a culvert to WL304 (Beaverdam Creek).	5	4
	WL236	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows southwest into WL214 (UT to Beaverdam Creek).	5	4

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL304	I	R5UBH	Perennial	Beaverdam Creek is confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway is Beaverdam Creek. Waterway flows west out of a culvert under Springfield Road and exits the study area, eventually flowing into Indian Creek.	5	2.5
	WL303	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Flows southwest from a drained ponded area within WP300 and into WL304 (Beaverdam Creek).	5	1.5
	WL213	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows southwest from a culvert and into WL214 (UT to Beaverdam Creek).	3	1.5
	WL302	I	R4SB	Intermittent	Flows into a large wetland that abuts Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows south out of a PVC pipe from an agricultural field and into WP300.	3	1.5
	WL301	I	R4SB	Intermittent	Flows into a large wetland that abuts Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows south out of a terracotta pipe from an agricultural field and into WP300.	3	1.5
	WL408	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows south into WL131 (Beaverdam Creek) and is problematically incised.	20	3.5
	WL307	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway drains WP306 and flows south out of the study area.	6	2
	WL072	I	R4SBC	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Sand, Silt	Waterway is UT to Beaverdam Creek and a continuation of WL127. Waterway flows out of the study area to a culvert under BW Pkwy.	6	4.5
	WL127	I	R4SBC	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand	Waterway is UT to Beaverdam Creek and a continuation of WL072. Waterway flows east out of study area to a culvert under BW Pkwy.	4	2
	WL073	I	R4SBC	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Concrete, Sand	Waterway is UT to Beaverdam Creek. Flows out of the study area.	8	4

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL310	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows southwest from a culvert under Springfield Road and through WP309 before exiting the study area, where it drains into an UT to Beaverdam Creek.	3	0.5
	WL319	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway is UT to Beaverdam Creek. Waterway flows south out of the study area to Beaverdam Creek.	20	5
	WL320	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows northeast into WL319 (UT to Beaverdam Creek) and has severe bank erosion causing the stream to be problematically incised.	10	15
	WL400	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway flows east from culvert under BW Pkwy and into WL077. Waterway has severe bank erosion.	5	5
	WL076	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows from WP075 into WP077.	6	1
	WL321	I	N/A	Ephemeral	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows southeast out of a culvert and into WL078.	3	2
	WL228	I	R4SB	Intermittent	Likely flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows southwest out of the study area.	3	3
	WL078	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Silt, Muck	Waterway flows northeast into WL077 and is abutted by WP079. Orange flocculant in water.	3	1
	WL404	I	N/A	Ephemeral	Ultimately flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows south into WP403 which abuts WL401.	3	1
	WL401	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Silt	Waterway flows south from WP402 into WL077B.	6.5	1

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL077, WL077B	I	R2UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is UT to Beaverdam Creek. Waterway flows southwest out of the study area.	11	2.5
	WL405	I	N/A	Ephemeral	Ultimately flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows north into WP406. Culverted at upstream end.	1.5	1
	WL080, WL080B	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Sand, Silt	Waterway is UT to Beaverdam Creek. Waterway flows out of study area to culvert under BW Pkwy. Waterway is incised.	11	6
	WL224	I	R4SB	Intermittent	Flows into WP221, which drains to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows east from a culvert and dissipates as overland flow within WP221.	2	1
	WL222	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows southeast from a culvert into WL223.	1	6
	WL223	I	R4SB	Intermittent	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows northeast out of study area to UT to Beaverdam Creek.	2	1
	WL081	I	N/A	Ephemeral	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Silt	Waterway flows to WL080.	3	2.5
	WL232	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Bedrock, Cobble, Gravel, Silt, Clay	Waterway flows northeast into WL233 (UT to Beaverdam Creek).	2	2
	WL235	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Sil	Waterway flows southeast from a culvert and into WL233 (UT to Beaverdam Creek).	1	1
	WL230	I	R4SB	Ephemeral	Flows to WP231B, which drains to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows north into WP231B.	3	1

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL233	I	R5UBH	Perennial	Flows to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows east to Beaverdam Creek and receives flow from WL232.	15	7
	WL082	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Sand, Silt	Waterway flows west, out of study area to culvert under BW Pkwy.	7	2
	WL083	I	R4SB	Intermittent	Flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Gravel, Sand, Silt	Waterway flows to WL082.	6	3
	WL090	I	R4SB	Intermittent	Likely flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows from WP084 into a culvert under BW Pkwy.	4	1
	WL091	I	R4SB	Intermittent	Likely flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Cobble, Gravel, Sand, Silt	Waterway originates outside of study area from a flooded culvert at BW Pkwy. Waterway flows southwest to WL083 via overland flow. Waterway loses bed and bank due to severe erosion.	4	2
	WL089	I	R4SB	Intermittent	Likely flows to UT to Beaverdam Creek, confluent to NEB Anacostia River (TNW)	Sand, Silt	Waterway flows from a culvert and drains to WP084.	2	1
PATUXENT RIVER WATERSHED									
	WL057	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Gravel, Sand	Waterway flows northeast into WP056. Culverted.	6	6
	WL058	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows southeast from WP056 and into a roadside drainage. Portion of the waterway is underground.	1.5	1
	WL059	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Silt	Waterway flows south. Wide forested riparian zone. Waterway was dry at the time of delineation.	4	6

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL060	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Gravel, Sand, Silt	Waterway flows north into WL061. Culverted.	4	3
	WL061	I	R2SB	Perennial	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows north. Culverted.	6	4
	WL062	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows northeast and is abutted by WP063. Culverted under the on-ramp.	4.5	1
	WL154	I	R4SB	Intermittent	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows northeast into WP108.	4	1
	WL065	I	N/A	Ephemeral	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt, Muck	Waterway flows east into WL064. Waterway is abutted by WP066.	3	1
	WL064	I	R2UBHx	Perennial	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway is UT to Patuxent River and a continuation of WL109. Waterway flows northeast and is abutted by WP066.	7.5	4
	WL085	I	R5UBH	Intermittent	Flows into Patuxent River (TNW)	Silt	Waterway is UT to Patuxent River. Waterway flows into WL109 and is within a Nontidal Wetland of Special State Concern (WP108A).	3	1
	WL109	I	R5UBH	Perennial	Flows into Patuxent River (TNW)	Cobble, Gravel, Silt	Waterway is UT to Patuxent River and a continuation of WL064. Waterway is within a Nontidal Wetland of Special State Concern (WP108A).	11.5	1
	WL110	I	R5UBH	Intermittent	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Silt	Waterway flows northwest to WL109 and is within a Nontidal Wetland of Special State Concern (WP108A).	13	1
	WL019	I	R2UBH	Perennial	Patuxent River is a TNW	Cobble, Gravel, Sand, Silt	Waterway is the Patuxent River. Waterway is a continuation of WL113/WL113B and is abutted by a Nontidal Wetland of Special State Concern (WP108A).	40	3

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL113, WL113B	I	R2UBH	Perennial	Patuxent River is a TNW	Sand, Silt	Waterway is the Patuxent River. Waterway is a continuation of WL019 and is abutted by WP066.	40	3
	WL071	I	R2SB	Perennial	Flows into Patuxent River (TNW)	Sand, Silt	Waterway flows south-southeast to Patuxent River.	30	4
	WL606	I	N/A	Ephemeral	Flows to wetland that drains to UT to Patuxent River, confluent to Patuxent River (TNW)	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. MDE delineated an ephemeral channel connection WP111 and WP112.			
	WL021	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows southeast.	4	2.5
	WL024	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway flows east.	8	4
	WL025/ WL025B	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Silt	Waterway flows east into WL024.	8	3.5
	WL105	I	R4SBC	Intermittent	Flows into Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway is UT to Patuxent River. Stream is severely incised.	15	7
	WL069	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows west towards Suburban Airport. Culverted under pedestrian trail and Brock Bridge Road.	4.5	0.5
	WL100	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Gravel, Muck	Waterway flows west to BW Pkwy toe of slope. Waterway may not be visible during dry summer conditions.	4.5	0.5
	WL101/ WL101A	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Gravel, Silt	Waterway is UT to Patuxent River. Waterway originates at culvert under BW Pkwy and flows east. Waterway dissipates into wet/braided flat area outside of the study area.	5	1

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL086	I	N/A	Ephemeral	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Silt	Waterway is an isolated stream with no downstream connection. Waterway was dry at time of observation.	7	.2
	WL018 A/B/C	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Gravel, Silt	Waterway flows east out of the study area.	4	1
	WL017	I	PFO1A	Perennial	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Boulders, Cobble, Gravel	Waterway flows west to culvert under BW Pkwy.	10	3
	WL159	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows northwest into WL017.	3	1
	WL016	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Boulders, Cobble, Gravel	Waterway flows south into WL017. The channel is rip rap.	10	2
	WL087	I	R4SBC	Perennial	Flows into Patuxent River (TNW)	Sand, Silt	Waterway is UT to Patuxent River. Waterway flows northwest out of the study area.	9	1
	WL088	I	R4SBC	Perennial	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows west into WL087.	6	2
	WL237	I	R5UBH	Intermittent	Flows to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is UT of Patuxent River. Waterway flows west out of study area.	9	2
	WL238	I	R5UBH	Intermittent	Flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows into WL237.	4	2
	WL053	I	R4SBC	Intermittent	Flows to Patuxent River (TNW)	Gravel, Sand, Silt, Muck	Waterway is UT to Patuxent River. Waterway flows south to a culvert under BW Pkwy.	6	1.5

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL014	I	N/A	Ephemeral	Likely flows to UT to Little Patuxent River, ultimately confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows north from WP015 into WP012.	4	0.5
	WL013	I	N/A	Ephemeral	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Silt	Waterway flows west into WP012.	2	0.5
	WL051	I	R4SB	Intermittent	Flows to UT Patuxent River, confluent to Patuxent River (TNW)	Gravel, Silt, Muck	Waterway flows southwest into WL053.	2.5	0.5
	WL052	I	R4SBC	Intermittent	Flows into Patuxent River	Gravel, Silt, Muck	Waterway is UT to Patuxent River. Flows east into WL051.	3	0.5
	WL165	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway flows north into WL164. Drains WP166.	2.5	1.5
	WL011	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel, Silt	Waterway flows north into WL010 just before culvert.	7	0.4
	WL163	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows south into WL164. Rip rap has been placed at downstream end.	3	1
	WL164	I	R4SB	Intermittent	Likely flows to UT to Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway flows west into culvert under BW Pkwy.	4	1
	WL010	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel, Silt	Waterway flows southwest.	3.5	1
	WL048	I	R2SB	Perennial	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel, Sand, Silt, Muck	Waterway flows northeast into WL047. Channel is incised, and banks are severely eroded.	7	5

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL007	I	N/A	Ephemeral	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel, Sand, Silt	Waterway flows south from culvert under BW Pkwy and is abutted by WP004.	3	1
	WL006	I	R2SB	Perennial	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Culverted under an old access road. Waterway flows east into WL005. Eroded bank.	11	3
	WL005	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway flows southwest out of the study area.	11	3.5
	WL049	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel	Waterway flows northeast into WL048.	3	1
	WL047	I	R2SB	Perennial	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway is UT to Little Patuxent River. Waterway flows southeast to culvert under BW Pkwy.	10	2
	WL045	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Gravel	Waterway flows southwest into WL047.	4	1
	WL046	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt, Muck	Waterway flows southeast into WL045.	3	1
	WL003	I	N/A	Ephemeral	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Silt	Waterway conveys flow east from culvert under powerline access road. Flow comes from WP001 and uplands.	3	1
	WL037	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Concrete	Waterway flows south to WL036. Waterway is a concrete drainage channel.	5	3
	WL036, WL036A	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Concrete	Waterway is UT to Little Patuxent River. Waterway is a concrete drainage channel.	5	.5

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL039	I	N/A	Ephemeral	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway flows into culvert under the road.	1.5	0.8
	WL172	I	R4SB	Intermittent	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Silt	Waterway flows southeast into WL042 and abuts WP171 and WP173.	2.5	1
	WL178	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows east into WP177. Waterway has no obvious connection to downstream waters.	2.5	1
	WL175	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Silt	Waterway flows southeast into WP170.	4	3
	WL040	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows northeast to a culvert under the road.	4.5	1
	WL041	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway flows northwest into WL040 just before the culvert.	4	2.5
	WL044	I	N/A	Ephemeral	Flows into WP043 which drains into UT to Little Patuxent River	Gravel	Waterway flows northwest into WP043. Waterway is an incised channel.	2	1
	WL042	I-P	R5UBH	Perennial	Flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt	Waterway is UT to Little Patuxent River. Waterway exits study area and passes under BW Pkwy through a culvert. Waterway re-enters study area around 700 ft downstream then flows out of study area into culvert.	5.5	2
	WL029	I	N/A	Ephemeral	Ultimately flows to Little Patuxent River (TNW)	Sand	Waterway is an UT to the Little Patuxent River and is adjacent to WP030.	2	0.5
	WL181	I	R4SB	Intermittent	Ultimately flows to Little Patuxent River (TNW)	Sand, Silt	Waterway is UT to Little Patuxent River. Flows east from WP183, into WP182; waterway reforms at east end of WP182.	5	1

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL155	I	R4SB	Intermittent	Ultimately flows to Little Patuxent River (TNW)	Cobble, Gravel Sand, Silt	Waterway flows north and becomes sheet flow before discharging into WL032. Cobblestone stabilization near the downstream end; majority of flow is beneath cobble stones.	1.5	2
	WL032	I	N/A	Ephemeral	Ultimately flows to Little Patuxent River (TNW)	Gravel, Sand, Silt	Waterway flows east to WP031 where it ends. WP031 drains to WL157 (Little Patuxent River).	4.5	0.25
	WL157	I-P	R2UBH	Perennial	Little Patuxent River is a TNW	Cobble, Gravel, Sand	Waterway is the Little Patuxent River which flows east into the Patuxent River. Waterway receives flow from WP031.	60	12
	WL099	I	R4SB	Perennial	Ultimately flows to Little Patuxent River (TNW)	Cobble, Gravel Sand, Silt	Waterway is UT to the Little Patuxent River. Waterway appears to be excavated.	20	6
	WL201	I	R4SB	Intermittent	Ultimately flows to Little Patuxent River (TNW)	Sand, Silt	Waterway is an inline pond. Waterway flows into a culvert under BW Pkwy into Dorsey Run.	750	3
	WL035	I	N/A	Ephemeral	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel	Waterway was dry at the time of delineation. Waterway is adjacent to WP203.	3.5	1
	WL027	I	N/A	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows northwest to a culvert under BW Pkwy.	15	3
	WL139	I	R4SB	Intermittent	Likely flows to UT to Little Patuxent River, confluent to Patuxent River (TNW)	Sand, Silt, Leaf litter	Waterway is UT to the Little Patuxent River. Waterway flows northwest into culvert and continues as WL027. Waterway drains WP140.	1	.5
	WL028	I-P	R4SB	Intermittent	Flows to UT to Dorsey Run, ultimately confluent to Little Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows northeast to WL034.	3	0.7
	WL152	I	N/A	Ephemeral	Flows to UT to Dorsey Run, ultimately confluent to Little Patuxent River (TNW)	Sand, Silt	Waterway flows north into WP147.	1	.3

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL034	I-P	R4SBC	Perennial	Flows to Dorsey Run, confluent to Little Patuxent River (TNW)	Gravel	Waterway is a UT to Dorsey Run. Waterway flows west under BW Pkwy to Dorsey Run and is adjacent to WP147.	15	4.5
	WL033	I-P	N/A	Ephemeral	Flows to UT to Dorsey Run, ultimately confluent to Little Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway flows southwest to UT to Dorsey Run.	4	1
	WL146	I-P	R4SBC	Perennial	Flows to Dorsey Run, confluent to Little Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway is UT to Dorsey Run. Waterway flows north into a culvert on NPS property and is adjacent to WP147.	6	3
	WL142	I-P	R4SB; R5UBH	Intermittent; Perennial	Flows to Dorsey Run, confluent to Little Patuxent River (TNW)	Sand, Silt, Muck, Leaf litter	Waterway is UT to Dorsey Run. Waterway flows northwest through WP143 out of study area.	4	.5
	WL144	I	N/A	Ephemeral	Flows to UT to Dorsey Run, ultimately confluent to Little Patuxent River (TNW)	Sand, Silt, Muck, Leaf litter	Waterway flows northwest into WP143, which contributes to WL142.	2	.25
	WL150	I-P	R4SBC	Perennial	Flows into Dorsey Run, confluent to Little Patuxent River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is UT to Dorsey Run. Waterway flows northwest into Dorsey Run and abuts WP149.	7	4
	WL600	I	R4SB; N/A	Intermittent; Ephemeral	Flows to UT to Dorsey Run, confluent to Little Patuxent River (TNW)	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. USACE determined the drainage through wetland WP149 to be an ephemeral/intermittent waterway. Waterway flows north through WP149 into WL150.			
	WL240	I	R5UBH	Perennial	Flows to Dorsey Run, confluent to Little Patuxent River (TNW)	Cobble, Gravel, Sand	Waterway flows north out of study area.	5	3
PATAPSCO RIVER WATERSHED									
	WL200	I	R4SB	Intermittent	Flows to Cabin Branch, confluent to Patapsco River (TNW)	Boulders, Cobble, Gravel, Silt	Ephemeral at culvert to downstream end of rip rap. Waterway is intermittent from rip rap to downstream exit of study area.	4	1.25

Table 1. Field-Delineated Waterway Summary

Map Sheet No.	Waterway ID ⁱ	Use Class ⁱⁱ	Cowardin Classification ⁱⁱⁱ	Flow Type	Nexus to TNW	Common Substrate	Stream Characteristics	Average Bank Width (ft.)	Average Bank Height (ft.)
	WL097	I	R4SB	Intermittent	Flows to the Patapsco River (TNW)	Bedrock, Cobble, Gravel, Sand	Waterway flows southwest to WP098. Waterway is culverted from the BW Pkwy/I-895 on ramp to DNR property. No longer flows through concrete culvert due to erosion.	30	15
	WL094	I	R2UBH	Intermittent	Flows to the Patapsco River (TNW)	Cobble, Gravel, Sand, Silt	Waterway is UT to Patapsco River. Waterway receives flow from culvert and is adjacent to WP095. Waterway is severely eroded.	15	3
	WL197	I	R2SB	Perennial	Likely flows to the Patapsco River (TNW)	Cobble, Gravel	Waterway flows north into culvert under railroad. Waterway has severe bank erosion and is problematically incised.	4	3

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Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
WASHINGTON METROPOLITAN WATERSHED								
	WP192	Palustrine Emergent (PEM)	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Geomorphic Position (D2)	Black Willow Sweet-Gum Red Maple Dark-Green Bulrush Pinkweed	<i>Salix nigra</i> <i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Scirpus atrovirens</i> <i>Persicaria pensylvanica</i>	OBL FAC FAC OBL FACW	Dominance Test	Depleted Matrix (F3)
	WP190	Palustrine Scrub Shrub (PSS)	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Sweet-Gum Horsebrier Skunk-Cabbage	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Symplocarpus foetidus</i>	FAC FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP188	PSS	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Geomorphic Position (D2)	Sweet-Gum Red Maple Horsebrier Late Lowbush Blueberry	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i> <i>Vaccinium angustifolium</i>	FAC FAC FAC FACU	Dominance Test	Depleted Matrix (F3)
	WP191	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Geomorphic Position (D2)	Sweet-Bay Magnolia Skunk-Cabbage Horsebrier	<i>Magnolia virginiana</i> <i>Symplocarpus foetidus</i> <i>Smilax rotundifolia</i>	FACW OBL FAC	Dominance Test	Depleted Matrix (F3)
	WP187	Palustrine Forested (PFO)	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Sweet-Gum Mountain-Laurel Northern Spicebush American Holly Skunk-Cabbage Horsebrier	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Kalmia latifolia</i> <i>Lindera benzoin</i> <i>Ilex opaca</i> <i>Symplocarpus foetidus</i> <i>Smilax rotundifolia</i>	FAC FAC FACU FACW FAC OBL FAC	Dominance Test	Depleted Dark Surface (F7)
	WP325A, WP325B, WP325C	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Crayfish Burrows (C8)	Red Maple Sweet-Gum Japanese Stiltgrass Sweet Woodreed	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Microstegium vimineum</i> <i>Cinna arundinacea</i>	FAC FAC FAC FACW	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP326A, WP326B	PFO	Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Sweet-Gum Japanese Stiltgrass Red Maple Skunk-Cabbage	<i>Liquidambar styraciflua</i> <i>Microstegium vimineum</i> <i>Acer rubrum</i> <i>Symplocarpus foetidus</i>	FAC FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP133	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple River Birch Pinkweed Canadian Clearweed Spotted Touch-Me-Not	<i>Acer rubrum</i> <i>Betula nigra</i> <i>Persicaria pensylvanica</i> <i>Pilea pumila</i> <i>Impatiens capensis</i>	FAC FACW FACW FACW FACW	Dominance Test	Depleted Matrix (F3)
	WP601	PFO	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. A floodplain area north of WL129 exhibits hydrophytic vegetation (<i>Carex</i> spp., common greenbrier, false-nettle, red maple, sweetgum, sweet woodreed), hydric soils (mottles), and hydrology (geomorphic position and drift deposits). Overland flow appears to drain into this area from the field to the east.					
	WP602	PEM	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. This 5-ft-wide swale exhibits wetland conditions and is located in the vegetated edge between two fallow fields. Dense vegetation at the west end of this swale made observations very difficult, but it appeared to diffuse into a flatter area with more upland vegetation.					
	WP120	PEM	Surface Water (A1) High Water Table (A2) Drainage Patterns (B10) Geomorphic Position (D2)	Deer-Tongue Rosette Grass	<i>Dichanthelium clandestinum</i>	FACW	Dominance Test	Depleted Matrix (F3)
	WP119	PEM	Surface Water (A1)	Reed Canary Grass	<i>Phalaris arundinacea</i>	OBL	Dominance Test	Depleted Matrix (F3)
	WP128	PFO1C	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Coastal Sweet-Pepperbush Cinnamon Fern	<i>Acer rubrum</i> <i>Clethra alnifolia</i> <i>Osmundastrum cinnamomeum</i>	FAC FACW FACW	Dominance Test	Depleted Matrix (F3)
	WP117	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Sweet-Gum Reed Canary Grass	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Phalaris arundinacea</i>	FAC FAC OBL	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary

Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP115	PEM/PFO	High Water Table (A2) Saturation (A3) Sediment Deposits (B2) Surface Soil Cracks (B6) Drainage Patterns (B10) Crayfish Burrows (C8) Geomorphic Position (D2)	Small-Spike False Nettle Arrow-Leaf Tearthumb	<i>Boehmeria cylindrica</i> <i>Persicaria sagittata</i>	FACW OBL	Dominance Test	Depleted Matrix (F3)
	WP068	PFO1C	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B6) Geomorphic Position (D2)	Slippery Elm Red Maple Horsebrier Southern Arrow-Wood	<i>Ulmus rubra</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i> <i>Viburnum dentatum</i>	FAC FAC FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP124	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10)	Red Maple Black Tupelo Horsebrier	<i>Acer rubrum</i> <i>Nyssa sylvatica</i> <i>Smilax rotundifolia</i>	FAC FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP412	PFO	High Water Table (A2) Saturation (A3) Drainage Patterns (B10)	Willow Oak Sweet-Gum Frank's Sedge Highbush Blueberry Black Tupelo Common Greenbrier	<i>Quercus phellos</i> <i>Liquidambar styraciflua</i> <i>Carex frankii</i> <i>Vaccinium corymbosum</i> <i>Nyssa sylvatica</i> <i>Smilax rotundifolia</i>	FACW FAC OBL FACW FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP212A, WP212B, WP212C, WP212D, WP212E, WP212F, WP212G	PFO/PEM	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10)	Japanese Stiltgrass Red Maple Willow Oak	<i>Microstegium vimineum</i> <i>Acer rubrum</i> <i>Quercus phellos</i>	FAC FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP125	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Cinnamon Fern Horsebrier	<i>Acer rubrum</i> <i>Osmundastrum cinnamomeum</i> <i>Smilax rotundifolia</i>	FAC FACW FAC	Dominance Test	Thin Dark Surface (S9)

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP126	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Northern White Oak Black Tupelo Highbush Blueberry Horsebrier Cinnamon Fern	<i>Quercus alba</i> <i>Nyssa sylvatica</i> <i>Vaccinium corymbosum</i> <i>Smilax rotundifolia</i> <i>Osmundastrum cinnamomeum</i>	FACU FAC FACW FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP317	PEM	Saturation (A3) Water-Stained Leaves (B9)	Japanese Stiltgrass	<i>Microstegium vimineum</i>	FAC	Dominance Test	Depleted Matrix (F3)
	WP300A	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Japanese Stiltgrass Skunk-Cabbage Sweet-Gum Spicebush	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Symplocarpus foetidus</i> <i>Liquidambar styraciflua</i> <i>Lindera benzoin</i>	FAC FAC OBL FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP300B	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Japanese Stiltgrass Reed Canary Grass Spotted Touch-Me-Not	<i>Microstegium vimineum</i> <i>Phalaris arundinacea</i> <i>Impatiens capensis</i>	FAC OBL FACW	Dominance Test	Depleted Matrix (F3)
	WP305A, WP305B	PEM	Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Marsh Seedbox	<i>Ludwigia palustris</i>	OBL	Dominance Test	Depleted Matrix (F3)
	WP308	PFO	Saturation (A3) Water-Stained Leaves (B9)	Red Maple Netted Chain Fern Partridgeberry Common Greenbrier Poison Ivy	<i>Acer rubrum</i> <i>Woodwardia areolata</i> <i>Mitchella repens</i> <i>Smilax rotundifolia</i> <i>Toxicodendron radicans</i>	FAC OBL FACU FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP306	PFO	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	American Holly Red Maple White Oak Jewelweed Netted Chain Fern	<i>Ilex opaca</i> <i>Acer rubrum</i> <i>Quercus alba</i> <i>Impatiens capensis</i> <i>Woodwardia areolata</i>	FAC FAC FACU FACW OBL	Dominance Test	Histostol (A1) Muck Presence (A8)

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP407	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Japanese Stiltgrass Skunk-Cabbage Black Tupelo Sweet Pepperbush Highbush Blueberry Common Greenbrier Oriental Bittersweet	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Symplocarpus foetidus</i> <i>Nyssa sylvatica</i> <i>Clethra alnifolia</i> <i>Vaccinium corymbosum</i> <i>Smilax rotundifolia</i> <i>Celastrus orbiculatus</i>	FAC FAC OBL FAC FACW FACW FAC FACU	Dominance Test	Depleted Matrix (F3)
	WP217	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Algal Mat or Crust (B4) Hydrogen Sulfide Odor (C1)	Soft Rush Reed Canary Grass	<i>Juncus effusus</i> <i>Phalaris arundinacea</i>	OBL OBL	Dominance Test	Hydrogen Sulfide (A4) Depleted Matrix (F3)
	WP208	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Soft Rush Sweet-Gum Virginia Pine Woolgrass	<i>Juncus effusus</i> <i>Liquidambar styraciflua</i> <i>Pinus virginiana</i> <i>Scirpus cyperinus</i>	OBL FAC UPL OBL	Dominance Test	Depleted Matrix (F3)
	WP209	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Japanese Stiltgrass	<i>Acer rubrum</i> <i>Microstegium vimineum</i>	FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP207	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Soft Rush Slender Rush Eastern Red Cedar Callery Pear	<i>Juncus effusus</i> <i>Juncus tenuis</i> <i>Juniperus virginiana</i> <i>Pyrus calleryana</i>	OBL FAC FACU UPL	Prevalence Index	Depleted Matrix (F3)
	WP206	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Virginia Pine Red Maple Highbush Blueberry Sweet-Gum Soft Rush	<i>Pinus virginiana</i> <i>Acer rubrum</i> <i>Vaccinium corymbosum</i> <i>Liquidambar styraciflua</i> <i>Juncus effusus</i>	UPL FAC FACW FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP204	PEM/PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Boxelder Maple Ground Ivy	<i>Acer negundo</i> <i>Glechoma hederacea</i>	FAC FACU	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary

Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP210	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Japanese Stiltgrass Callery Pear Virginia Pine American Holly	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Pyrus calleryana</i> <i>Pinus virginiana</i> <i>Ilex opaca</i>	FAC FAC UPL UPL FAC	Prevalence Index	Depleted Matrix (F3)
	WP409	PEM	High Water Table (A2) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Geomorphic Position (D2)	Japanese Stiltgrass	<i>Microstegium vimineum</i>	FAC	Dominance Test	Depleted Matrix (F3)
	WP130	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Sweet-Gum Willow Oak Horsebrier	<i>Liquidambar styraciflua</i> <i>Quercus phellos</i> <i>Smilax rotundifolia</i>	FAC FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP074	PFO	Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Redbud Sweet-Gum Lamp Rush Horsebrier Japanese Honeysuckle	<i>Acer rubrum</i> <i>Cercis canadensis</i> <i>Liquidambar styraciflua</i> <i>Juncus effusus</i> <i>Smilax rotundifolia</i> <i>Lonicera japonica</i>	FAC UPL FAC OBL FAC FACU	Dominance Test	Depleted Matrix (D3)
	WP318	PSS	Surface Water (A1) High Water Table (A2) Saturation (A3)	Japanese Stiltgrass Sweet-Gum Bulrush	<i>Microstegium vimineum</i> <i>Liquidambar styraciflua</i> <i>Typha latifolia</i>	FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP314	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Frank's Sedge Sweet-Gum Red Maple	<i>Carex frankii</i> <i>Liquidambar styraciflua</i> <i>Acer rubrum</i>	OBL FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP313A, WP313B	PEM	High Water Table (A2) Saturation (A3)	Soft Rush Giant Goldenrod	<i>Juncus effusus</i> <i>Solidago gigantea</i>	OBL FACW	Dominance Test	Depleted Matrix (F3)

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Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP315	PFO	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Sweet-Gum Red Maple Black Tupelo Poison Ivy Sallow Sedge Japanese Honeysuckle Whitegrass Common Greenbrier	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Nyssa sylvatica</i> <i>Toxicodendron radicans</i> <i>Carex lurida</i> <i>Lonicera japonica</i> <i>Leersia virginica</i> <i>Smilax rotundifolia</i>	FAC FAC OBL FACU FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP312	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Highbush Blueberry Black Tupelo Sweet-Gum Red Maple Common Greenbrier Virginia Creeper	<i>Vaccinium corymbosum</i> <i>Nyssa sylvatica</i> <i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i> <i>Parthenocissus quinquefolia</i>	FACW FAC FAC FAC FACU	Dominance Test	Depleted Matrix (F3)
	WP316	PFO	High Water Table (A2) Saturation (A3)	Loblolly Pine Sweet-Gum Red Maple Black Tupelo Highbush Blueberry Common Greenbrier	<i>Pinus taeda</i> <i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Nyssa sylvatica</i> <i>Vaccinium corymbosum</i> <i>Smilax rotundifolia</i>	FAC FAC FAC FAC FACW FAC	Dominance Test	Depleted Matrix (F3) Depleted Below Dark Surfaces (A11)
	WP311A, WP311B	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Sweet-Gum Kidneyleaf Buttercup Reed Canary Grass	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Ranunculus abortivus</i> <i>Phalaris arundinacea</i>	FAC FAC FACW OBL	Dominance Test	Depleted Matrix (F3)
	WP309	PEM	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8)	Reed Canary Grass	<i>Phalaris arundinacea</i>	OBL	Dominance Test	Depleted Matrix (F3)
	WP218	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Sweet-Gum Poison Ivy Willow Oak Soft Rush Wild Privet Loblolly Pine	<i>Liquidambar styraciflua</i> <i>Toxicodendron radicans</i> <i>Quercus phellos</i> <i>Juncus effusus</i> <i>Ligustrum vulgare</i> <i>Pinus taeda</i>	FAC FAC FACW OBL UPL FAC	Dominance Test	Depleted Matrix (F3)
	WP220	PEM	High Water Table (A2) Saturation (A3)	Common Greenbrier Soft Rush Sweet-Gum	<i>Smilax rotundifolia</i> <i>Juncus effusus</i> <i>Liquidambar styraciflua</i>	FAC OBL FAC	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP219	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Japanese Stiltgrass Sweet-Gum	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Liquidambar styraciflua</i>	FAC FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP322	PFO	Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Black Tupelo Japanese Stiltgrass Spotted Touch-Me-Not Northern Red Oak	<i>Nyssa sylvatica</i> <i>Microstegium vimineum</i> <i>Impatiens capensis</i> <i>Quercus rubra</i>	FAC FAC FACW FACU	Dominance Test	Depleted Matrix (F3)
	WP075	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Southern Arrow-Wood Common Reed	<i>Viburnum dentatum</i> <i>Phragmites australis</i>	FAC FACW	Dominance Test	Redox Depressions (F8)
	WP079	PEM	Surface Water (A1) High Water Table (A2) Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Sweet-Gum Arrow-Leaf Tearthumb Shallow Sedge	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Persicaria sagittata</i> <i>Carex lurida</i>	FAC FAC OBL OBL	Dominance Test	Depleted Matrix (F3)
	WP403	PFO	High Water Table (A2) Saturation (A3)	Northern Red Oak Red Maple Sweet-Gum Japanese Stiltgrass Horsebrier	<i>Quercus rubra</i> <i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Microstegium vimineum</i> <i>Smilax rotundifolia</i>	FACU FAC FAC FAC FAC	Dominance Test	Depleted Matrix
	WP402	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Red Maple Northern White Oak Sweet-Gum Horsebrier Japanese Honeysuckle	<i>Acer rubrum</i> <i>Quercus alba</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Lonicera japonica</i>	FAC FACU FAC FAC FACU	Dominance Test	Redox Dark Surface (F6)
	WP406	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Sweet-Gum Black Willow Pin Oak Common Reed	<i>Liquidambar styraciflua</i> <i>Salix nigra</i> <i>Quercus palustris</i> <i>Phragmites australis</i>	FAC OBL FACW FACW	Dominance Test	Depleted Matrix (F3)

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Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator	
				Common Name	Scientific Name	Indicator Status	Indicator		
	WP229	PFO	Surface Water (A1) Water-Stained Leaves (B9) Hydrogen Sulfide Odor (C1)	Red Maple Black Tupelo Sweet-Gum Shallow Sedge Japanese Stiltgrass Multiflora Rose Common Greenbrier	<i>Acer rubrum</i> <i>Nyssa sylvatica</i> <i>Liquidambar styraciflua</i> <i>Carex lurida</i> <i>Microstegium vimineum</i> <i>Rosa multiflora</i> <i>Smilax rotundifolia</i>	FAC FAC FAC OBL FAC FACU FAC	Dominance Test	Depleted Matrix (F3)	
	WP221	PFO	High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Geomorphic Position (D2)	Skunk-Cabbage Red Maple Sweet-Gum American Holly	<i>Symplocarpus foetidus</i> <i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Ilex opaca</i>	OBL FAC FAC FAC	Dominance Test	Hydrogen Sulfide (A4)	
	WP227	PEM	High Water Table (A2) Water-Stained Leaves (B9)	Common Spike-Rush	<i>Eleocharis palustris</i>	OBL	Dominance Test	Sandy Redox (S5)	
	WP225	PFO	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2)	Southern Red Oak Highbush Blueberry Common Greenbrier Japanese Honeysuckle Sallow Sedge	<i>Quercus falcata</i> <i>Vaccinium corymbosum</i> <i>Smilax rotundifolia</i> <i>Lonicera japonica</i> <i>Carex lurida</i>	FACU FACW FAC FACU OBL	Dominance Test	Depleted Matrix (F3)	
	WP226	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Black Tupelo Pin Oak Sweet White Violet Japanese Stiltgrass Highbush Blueberry	<i>Nyssa sylvatica</i> <i>Quercus palustris</i> <i>Viola blanda</i> <i>Microstegium vimineum</i> <i>Vaccinium corymbosum</i>	FAC FACW FACW FAC FACW	Dominance Test	Depleted Matrix (F3)	
	WP231,A WP231B	PFO	Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Sweet-Gum Skunk-Cabbage Japanese Stiltgrass	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Symplocarpus foetidus</i> <i>Microstegium vimineum</i>	FAC FAC OBL FAC	Dominance Test	Depleted Matrix (F3)	
	WP234	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Japanese Stiltgrass Red Maple Sweet-Gum False Nettle Poison Ivy	<i>Microstegium vimineum</i> <i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Boehmeria cylindrica</i> <i>Toxicodendron radicans</i>	FAC FAC FAC FACW FAC	Dominance Test	Depleted Matrix (F3)	
	WP605	PFO	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. This area receives flow from WL091 and exhibited hydric soils (F3), FAC vegetation (American holly, blackgum, common greenbrier), and hydrology (saturation). MDE confirmed the field-delineated boundary and indicators.						

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP604	PFO	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. This small depressional area exhibited hydric soils (redox mottles), hydrophytic vegetation (red maple), and hydrology (sparsely vegetated concave surface, water-stained leaves). MDE confirmed the field-delineated boundary and indicators. A wood frog was observed in this area.					
	WP054	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Lamp Rush Shallow Sedge	<i>Juncus effusus</i> <i>Carex lurida</i>	OBL OBL	Dominance Test	Depleted Matrix (F3)
	WP084	PFO/PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Red Maple Willow Oak	<i>Acer rubrum</i> <i>Quercus phellos</i>	FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP055	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Black Tupelo Virginian Cutgrass	<i>Nyssa sylvatica</i> <i>Leersia virginica</i>	FAC FACW	Dominance Test	Depleted Matrix (F3)
PATUXENT RIVER WATERSHED								
	WP056	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Black Willow American Elm Red Maple Sweet-Gum Rice Cutgrass	<i>Salix nigra</i> <i>Ulmus americana</i> <i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Leersia oryzoides</i>	OBL FAC FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP153	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Black Tupelo American Beech Horsebrier	<i>Acer rubrum</i> <i>Nyssa sylvatica</i> <i>Fagus grandifolia</i> <i>Smilax rotundifolia</i>	FAC FAC FACU FAC	Dominance Test	Depleted Matrix (F3)
	WP063/ WP063B	PFO	High Water Table (A2) Saturation (A3) Drift Deposits (B3) Geomorphic Position (D2)	Sweet-Gum Red Maple Horsebrier Virginia Creeper Southern Arrowwood	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i> <i>Parthenocissus quinquefolia</i> <i>Viburnum dentatum</i>	FAC FAC FAC FACU FAC	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary

Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP108/ WP108A	PFO1E	Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Water-Stained Leaves (B9) Hydrogen Sulfide Odor (C1) Presence of Reduced Iron (C4) Drainage Patterns (B10) Crayfish Burrows (C8) Geomorphic Position (D2) Sphagnum moss (D8)	Black Tupelo Sweet-Gum American Beech Horsebrier Sweet Wood-Reed	<i>Nyssa sylvatica</i> <i>Liquidambar styraciflua</i> <i>Fagus grandifolia</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i>	FAC FAC FACU FAC FACW	Dominance Test	Hydrogen Sulfide (A4)/ Depleted Matrix (F3)
	WP066	PFO1C	High Water Table (A2) Drift Deposits (B3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Northern Spicebush Deer-Tongue Rosette Grass Virginian Cutgrass	<i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Dichanthelium clandestinum</i> <i>Leersia virginica</i>	FAC FACW FACW FACW	Dominance Test	Depleted Matrix (F3)
	WP020	PFO1E	Surface Water (A1) Water Marks (B1) Water-Stained Leaves (B9) Geomorphic Position (D2)	Sweet-Gum Pin Oak Red Maple American Elm Green Ash Japanese Stiltgrass Horsebrier Sweet Wood-Reed	<i>Liquidambar styraciflua</i> <i>Quercus palustris</i> <i>Acer rubrum</i> <i>Ulmus americana</i> <i>Fraxinus pennsylvanica</i> <i>Microstegium vimineum</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i>	FAC FACW FAC FAC FACW FAC FAC FACW	Dominance Test	Pending hydric soil assessment at PRR
	WP112	PEM	High Water Table (A2) Saturation (A3) Inundation Visible on Aerial Imagery (B7) Drainage Patterns (B10) Geomorphic Position (D2)	Japanese Stiltgrass	<i>Microstegium vimineum</i>	FAC	Dominance Test	Depleted Matrix (F3)
	WP023	PFO	Surface Water (A1) Water-Stained Leaves (B9)	Willow Oak Red Maple American Hophornbeam Sweet Wood-Reed Horsebrier	<i>Quercus phellos</i> <i>Acer rubrum</i> <i>Ostrya virginiana</i> <i>Cinna arundinacea</i> <i>Smilax rotundifolia</i>	FACW FAC FACU FACW FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP022	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Sweet-Gum Red Maple Eastern Hop-Hornbeam American Elm Horsebrier Green Ash	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Ostrya virginiana</i> <i>Ulmus americana</i> <i>Smilax rotundifolia</i> <i>Fraxinus pennsylvanica</i>	FAC FAC FACU FAC FAC FACW	Dominance test	Pending hydric soil assessment at PRR

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Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP161	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	Northern Red Oak Sweet-Gum Horsebrier	<i>Quercus rubra</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i>	FACU FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP111	PFO1E	Surface Water (A1) High Water Table (A2) Saturation (A3) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Moss Trim Lines (B16) Geomorphic Position (D2)	Red Maple Slippery Elm Sweet-Gum Northern Spicebush Green Ash Horsebrier	<i>Acer rubrum</i> <i>Ulmus rubra</i> <i>Liquidambar styraciflua</i> <i>Lindera benzoin</i> <i>Fraxinus pennsylvanica</i> <i>Smilax rotundifolia</i>	FAC FAC FAC FACW FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP070	PFO1E/PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Red Maple Sweet-Gum Black Tupelo American Hornbeam Horsebrier Sweet Wood-Reed	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Nyssa sylvatica</i> <i>Carpinus caroliniana</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i>	FAC FAC FACW FAC FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP160	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	Red Maple Ironwood American Holly Partridge-Berry	<i>Acer rubrum</i> <i>Carpinus caroliniana</i> <i>Ilex opaca</i> <i>Mitchella repen</i>	FAC FAC FAC FACU	Dominance Test	Depleted Matrix (F3)
	WP026	PFO	Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Sweet-Gum Horsebrier Sweet Wood-Reed Japanese Stiltgrass	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i> <i>Microstegium vimineum</i>	FAC FAC FAC FACW FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP107, WP107A, WP107B	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)	Red Maple American Beech Japanese Stiltgrass Horsebrier	<i>Acer rubrum</i> <i>Fagus grandifolia</i> <i>Microstegium vimineum</i> <i>Smilax rotundifolia</i>	FAC FACU FAC FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP106	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Sweet-Gum Ironwood Japanese Stiltgrass Sensitive Fern	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Carpinus caroliniana</i> <i>Microstegium vimineum</i> <i>Onoclea sensibilis</i>	FAC FAC FAC FAC FACW	Dominance Test	Pending hydric soil assessment at PRR

Table 2. Field-Delineated Wetland Summary

Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP102	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Slippery Elm Japanese Barberry Japanese Stiltgrass Pennsylvania Smartweed Sweet Wood-Reed	<i>Acer rubrum</i> <i>Ulmus rubra</i> <i>Berberis thunbergii</i> <i>Microstegium vimineum</i> <i>Persicaria pennsylvanica</i> <i>Cinna arundinacea</i>	FAC FAC UPL FAC FACW FACW	Dominance Test	Pending hydric soil assessment at PRR
	WP158	PFO	Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Sweet-Gum Japanese Stilt-Grass	<i>Liquidambar styraciflua</i> <i>Microstegium vimineum</i>	FAC FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP104	PEM	Surface Water (A1) Water-Stained Leaves (B9)	Pennsylvania Smartweed Green Bulrush	<i>Persicaria pennsylvanica</i> <i>Scirpus atrovirens</i>	FACW OBL	Dominance Test	Pending hydric soil assessment at PRR
	WP015	PFO	Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Black Tupelo American Beech Horsebrier	<i>Nyssa sylvatica</i> <i>Fagus grandifolia</i> <i>Smilax rotundifolia</i>	FAC FACU FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP012	PFO	Surface Water (A1) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B6) Drainage Patterns (B10) Geomorphic Positions (D2)	Red Maple Sweet-Gum Black Tupelo	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Nyssa sylvatica</i>	FAC FAC FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP166	PFO	Surface Water (A1) High Water Table (A2) Water-Stained Leaves (B9) Geomorphic Position (D2)	Sweet-Gum	<i>Liquidambar styraciflua</i>	FAC	Dominance Test	Depleted Matrix (F3)
	WP009	PFO	Surface Water (A1)	Sweet-Gum Horsebrier Shallow Sedge	<i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Carex lurida</i>	FAC FAC OBL	Dominance Test	Pending hydric soil assessment at PRR
	WP414A, WP414B	PEM	Surface Water (A1) Drainage Patterns (B10) Geomorphic Position (D2)	Rice Cutgrass Soft Rush Woolgrass Sweet-Gum	<i>Leersia oryzoides</i> <i>Juncus effusus</i> <i>Scirpus cyperinus</i> <i>Liquidambar styraciflua</i>	OBL OBL OBL FAC	Dominance Test	Pending hydric soil assessment at PRR

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Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP050	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10) Geomorphic Position (D2)	Sweet-Gum Virginia Creeper Chinese Wisteria	<i>Liquidambar styraciflua</i> <i>Parthenocissus quinquefolia</i> <i>Wisteria sinensis</i>	FAC FACU NI	Dominance Test	Depleted Below Dark Surface (A11)
	WP008	PEM	Surface Water (A1) Geomorphic Position (D2)	Tapered Rosette Grass Pointed Broom Sedge Deer-Tongue Rosette Grass	<i>Dichanthelium acuminatum</i> <i>Carex scoparia</i> <i>Dichanthelium clandestinum</i>	FAC FACW FACW	Dominance Test	Pending hydric soil assessment at PRR
	WP162	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Red Maple Northern White Oak Horsebrier	<i>Acer rubrum</i> <i>Quercus alba</i> <i>Smilax rotundifolia</i>	FAC FACU FAC	Dominance Test	Depleted Matrix (F3)
	WP004	PEM/ PFO	Drift Deposits (B3) Crayfish Burrows (C8) Geomorphic Position (D2)	Japanese Stiltgrass Dotted Smartweed	<i>Microstegium vimineum</i> <i>Persicaria punctata</i>	FAC OBL	Dominance Test	Pending hydric soil assessment at PRR
	WP001	PEM	Algal Mat or Crust (B4) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Crayfish Burrows (C8) Geomorphic Position (D2)	Pointed Broom Sedge Asiatic Tearthumb	<i>Carex scoparia</i> <i>Persicaria perfoliata</i>	FACW FAC	Dominance Test	Pending hydric soil assessment at PRR
	WP002	PEM	Geomorphic Position (D2)	Sweet-Bay Magnolia Northern White Oak Horsebrier Japanese Stiltgrass Shallow Sedge Arrow-Leaf Tearthumb	<i>Magnolia virginiana</i> <i>Quercus alba</i> <i>Smilax rotundifolia</i> <i>Microstegium vimineum</i> <i>Carex lurida</i> <i>Persicaria sagittata</i>	FACW FACU FAC FAC OBL OBL	Dominance Test	Pending hydric soil assessment at PRR
	WP038	PEM	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B6) Geomorphic Position (D2)	Black Tupelo	<i>Nyssa sylvatica</i>	FAC	Dominance Test	Depleted Matrix (F3)

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				Common Name	Scientific Name	Indicator Status	Indicator	
	WP170	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Northern Red Oak Black Tupelo Red Maple American Beech Horsebrier Sweet Wood-Reed	<i>Quercus rubra</i> <i>Nyssa sylvatica</i> <i>Acer rubrum</i> <i>Fagus grandifolia</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i>	FACU FAC FAC FACU FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP238	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Sweet-Gum Japanese Stiltgrass Tuliptree American Holly	<i>Liquidambar styraciflua</i> <i>Microstegium vimineum</i> <i>Liriodendron tulipifera</i> <i>Ilex opaca</i>	FAC FAC FACU FAC	Dominance Test	Depleted Matrix (F3)
	WP239A, WP239B, WP239C	PEM/PFO	Surface Water (A1) High Water Table (A2) Saturation (A3)	Reed Canary Grass	<i>Phalaris arundinacea</i>	OBL	Dominance Test	Depleted Matrix (F3)
	WP179	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Sparsely Vegetated Concave Surface (B8) Geomorphic Position (D2)	Horsebrier	<i>Smilax rotundifolia</i>	FAC	Dominance Test	Dark Surface (F7)
	WP177	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Horsebrier	<i>Acer rubrum</i> <i>Smilax rotundifolia</i>	FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP174	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	American Sycamore Red Maple	<i>Platanus occidentalis</i> <i>Acer rubrum</i>	FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP173	PEM	Water-Stained Leaves (B9) Geomorphic Position (D2)	Japanese Stiltgrass	<i>Microstegium vimineum</i>	FAC	Dominance Test	Depleted Matrix (F3)

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				Common Name	Scientific Name	Indicator Status	Indicator	
	WP171	PEM	Water-Stained Leaves (B9) Drainage Patterns (B10) Geomorphic Position (D2)	Red Maple Japanese Stiltgrass Broom-Sedge	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Andropogon virginicus</i>	FAC FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP043	PUB	N/A	N/A	N/A	N/A	N/A	N/A
	WP180	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Sweet-Bay Sweet-Gum Horsebrier Skunk-Cabbage	<i>Magnolia virginiana</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Symplocarpus foetidus</i>	FACW FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP184	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Red Maple Tuliptree Sweet-Gum Horsebrier Partridge-Berry	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Mitchella repens</i>	FAC FACU FAC FAC FACU	Dominance Test	Depleted Matrix (F3)
	WP183	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Sweet-Gum Tuliptree American Beech Cinnamon Fern Horsebrier	<i>Liquidambar styraciflua</i> <i>Liriodendron tulipifera</i> <i>Fagus grandifolia</i> <i>Osmundastrum cinnamomeum</i> <i>Smilax rotundifolia</i>	FAC FACU FACU FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP182	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Tuliptree Red Maple Sweet-Gum American Beech Horsebrier	<i>Liriodendron tulipifera</i> <i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Fagus grandifolia</i> <i>Smilax rotundifolia</i>	FACU FAC FAC FACU FAC	Dominance Test	Depleted Matrix (F3)
	WP030	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)	Rice Cutgrass	<i>Leersia oryzoides</i>	OBL	Dominance Test	Hydrogen Sulfide (A4) Depleted Matrix (F3)

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				Common Name	Scientific Name	Indicator Status	Indicator	
	WP031	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3)	Lizard's Tail Japanese Stiltgrass Branched Burr-Reed	<i>Saururus cernuus</i> <i>Microstegium vimineum</i> <i>Sparganium androcladum</i>	OBL FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP156	PUB	N/A	N/A	N/A	N/A	N/A	N/A
	WP198	PEM/PSS	Surface Water (A1) High Water Table (A2) Saturation (A3)	Broad-Leaf Cat-Tail	<i>Typha latifolia</i>	OBL	Dominance Test	Depleted Matrix (F3)
	WP199	PEM/PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)	Sweet-Gum Red Maple Skunk-Cabbage Three-Way Sedge	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Symplocarpus foetidus</i> <i>Dulichium arundinaceum</i>	FAC FAC OBL OBL	Dominance Test	Hydrogen Sulfide (A4)
	WP202	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Drift Deposits (B3) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Common Reed	<i>Phragmites australis</i>	FACW	Dominance Test	Depleted Matrix (F3)
	WP203	PEM1Fx	Surface Water (A1) High Water Table (A2) Saturation (A3) Drift Deposits (B3) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Sweet-Gum Common Reed	<i>Liquidambar styraciflua</i> <i>Phragmites australis</i>	FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP141	PEM	Surface Water (A1) Geomorphic Position (D2)	Wand Panic Grass Curly Dock	<i>Panicum virgatum</i> <i>Rumex crispus</i>	FAC FAC	Dominance Test	Depleted Matrix (F3)
	WP138	PEM	Surface Water (A1) Saturation (A3)	Narrow-Leaf Cat-Tail Small Carp Grass	<i>Typha angustifolia</i> <i>Arthraxon hispidus</i>	OBL FAC	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary									
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator	
				Common Name	Scientific Name	Indicator Status	Indicator		
	WP140	PEM	High Water Table (A2) Saturation (A3)	Eastern Cottonwood Common Reed	<i>Populus deltoides</i> <i>Phragmites australis</i>	FAC FACW	Dominance Test	Depleted Matrix (F3)	
	WP147	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	Sweet-Gum Red Maple American Holly Japanese Siltgrass	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Ilex opaca</i> <i>Microstegium vimineum</i>	FAC FAC FAC FAC	Dominance Test	Redox Dark Surface (F6)	
	WP145	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	American Beech Sweet-Gum Horsebrier Japanese Stiltgrass	<i>Fagus grandifolia</i> <i>Liquidambar styraciflua</i> <i>Smilax rotundifolia</i> <i>Microstegium viminem</i>	FACU FAC FAC FAC	Dominance Test	Redox Dark Surface (F6)	
	WP144	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	American Beech Red Maple Horsebrier	<i>Fagus grandifolia</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i>	FACU FAC FAC	Dominance Test	Redox Dark Surface (F6)	
	WP143	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	Tuliptree Sweet-Gum Cinnamon Fern Skunk-Cabbage	<i>Liriodendron tulipifera</i> <i>Liquidambar styraciflua</i> <i>Osmundastrum cinnamomeum</i> <i>Symplocarpus foetidus</i>	FACU FAC FACW OBL	Dominance Test	Depleted Matrix (F3)	
	11-AN	PFO	Wetland was delineated by Ft. George G. Meade staff in 2014, and boundaries were verified by Straughan in 2020. Sample plot data not available. This wetland connects to WP143 outside of the study area.						
	WP242	PFO	High Water Table (A2) Geomorphic Position (D2)	Tuliptree Japanese Stiltgrass New York Fern Skunk-Cabbage Sweet-Gum	<i>Liriodendron tulipifera</i> <i>Microstegium vimineum</i> <i>Parathelypteris noveboracensis</i> <i>Symplocarpus foetidus</i> <i>Liquidambar styraciflua</i>	FACU FAC FAC OBL FAC	Dominance Test	Redox Dark Surface (F6)	
	WP148	PFO	Surface Water (A1) High Water Table (A2)	Sweet-Gum Red Maple Horsebrier Sweet Wood-Reed	<i>Liquidambar styraciflua</i> <i>Acer rubrum</i> <i>Smilax rotundifolia</i> <i>Cinna arundinacea</i>	FAC FAC FAC FACW	Dominance Test	Depleted Matrix (F3)	
	11-CH	PEM	Wetland was delineated by Ft. George G. Meade staff in 2014, and boundaries were verified by Straughan in 2020. Sample plot data not available.						

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP149	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10)	Red Maple Sweet-Gum Cinnamon Fern	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Osmundastrum cinnamomeum</i>	FAC FAC FACW	Dominance Test	Depleted Matrix (F3)
	WP241	PFO	Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Japanese Stiltgrass Soft Rush	<i>Acer rubrum</i> <i>Microstegium vimineum</i> <i>Juncus effusus</i>	FAC FAC OBL	Dominance Test	Depleted Matrix (F3)
	WP151	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Red Maple Sweet-Gum Coastal Sweet-Pepperbush Horsebrier Cinnamon Fern	<i>Acer rubrum</i> <i>Liquidambar styraciflua</i> <i>Clethra alnifolia</i> <i>Smilax rotundifolia</i> <i>Osmundastrum cinnamomeum</i>	FAC FAC FACW FAC FACW	Dominance Test	Depleted Matrix (F3)
PATAPSCO RIVER WATERSHED								
	WP168	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Geomorphic Position (D2)	Broad-Leaf Cat-Tail Lamp Rush Cottongrass Bulrush	<i>Typha latifolia</i> <i>Juncus effusus</i> <i>Scirpus cyperinus</i>	OBL OBL OBL	Dominance Test	Sandy Redox (S5)
	WP098	PEM1R	Surface Water (A1) High Water Table (A2) Saturation (A3) Inundation Visible on Aerial Imagery (B7) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Geomorphic Position (D2)	Common Reed	<i>Phragmites australis</i>	FACW	Rapid Test for Hydrophytic Vegetation/ Dominance Test	Hydrogen Sulfide (A4)
	WP096	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Shallow Aquitard (D3)	Lamp Rush Japanese Stiltgrass	<i>Juncus effusus</i> <i>Microstegium vimineum</i>	OBL FAC	Dominance Test	Depleted Matrix (F3)
	WP169	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10) Geomorphic Position (D2)	Common Reed	<i>Phragmites australis</i>	FACW	Dominance Test	Depleted Matrix (F3)

Table 2. Field-Delineated Wetland Summary								
Map Sheet No.	Wetland ID ⁱ	Cowardin Classification ⁱⁱⁱ	Wetland Hydrology Indicator	Hydrophytic Vegetation ^{iv}				Hydric Soil Indicator
				Common Name	Scientific Name	Indicator Status	Indicator	
	WP095/ WP095B	PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Geomorphic Position (D2)	Red Maple Eurasian-Buttercup	<i>Acer rubrum</i> <i>Ficaria verna</i>	FAC FAC	Dominance Test	Redox Dark Surface (F6)
	WP603	PEM	Wetland delineated during July 2019 Agency Site Visits, per direction from MDE. Datasheet not prepared. This ponded area is potentially an unmaintained stormwater management feature between the Light Rail track embankment and the BGE right-of-way. It exhibited open water with emergent vegetation. MDE requested this system be delineated via aerial mapping.					
	WP092/ WP092B	PEM	Surface Water (A1) Saturation (A3) Geomorphic Position (D2)	Common Reed Wand Panic Grass	<i>Phragmites australis</i> <i>Panicum virgatum</i>	FACW FAC	Dominance Test	Depleted Matrix (F3)
	WP093	PEM	Surface Water (A1) Saturation (A3)	Wand Panic Grass	<i>Panicum virgatum</i>	FAC	Dominance Test	Depleted Matrix (F3)
	WP196	PUB	N/A	N/A	N/A	N/A	N/A	N/A
	WP195	PEM/PFO	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10) Geomorphic Position (D2)	Black Willow Lamp Rush	<i>Salix nigra</i> <i>Juncus effusus</i>	OBL OBL	Dominance Test	Depleted Matrix (F3)
	WP194	PEM	Surface Water (A1) High Water Table (A2) Saturation (A3) Sparsely Vegetated Concave Surface (B8)	Narrow-Leaf Cat-Tail Lamp Rush	<i>Typha angustifolia</i> <i>Juncus effusus</i>	OBL OBL	Rapid Test for Hydrophytic Vegetation	Depleted Matrix (F3)

ⁱ These tables include systems that were field-delineated by Straughan and all 600-systems that were added by as directed during agencies site visits. This table excludes all 500-systems, which were desktop-delineated.

ⁱⁱ Closure Period for Use Class I and I-P is 3/1-6/15

ⁱⁱⁱ Based on Cowardin, et al. 1979 and FGDC (2013).

^{iv} Based on Lichvar, et al. 2016.



Appendix B - Phase 1 Mitigation Plans



PHASE I WETLAND MITIGATION PLAN

Baltimore Washington Rapid Rail, LLC
SCMAGLEV Phase 1, Washington to Baltimore

Parker Lane Stream & Wetland Mitigation Project
Parker Lane, Clinton, Prince George's County, Maryland

Brinkley Road Stream & Wetland Mitigation Project
Brinkley Road, Temple Hills, Prince George's County, Maryland

Mill Swamp North Stream & Wetland Mitigation Project
Fenwick Road, Bryans Road, Charles County, Maryland

Lake Collington Stream & Wetland Mitigation Project
Commerce Drive, Upper Marlboro, Prince George's County, Maryland

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November 2020

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FIGURE 2 – SCMAGLEV SITE SEARCH MIDDLE POTOMAC WATERSHED

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- EXHIBIT 2 - CONCEPTUAL MITIGATION PLAN
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- EXHIBIT 1 - USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP
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ATTACHMENT 3 – MILL SWAMP NORTH MITIGATION SITE

- EXHIBIT 1 - USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP
- EXHIBIT 2 - CONCEPTUAL MITIGATION PLAN
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1. INTRODUCTION

Baltimore Washington Rapid Rail, LLC (BWRR) engaged GreenVest (GV) to provide compensatory wetland mitigation for the Phase I of the Northeast SCMAGLEV Project (SCMAGLEV). The SCMAGLEV project is anticipated to result in unavoidable, permanent impacts to wetlands and streams – 23.62 acres of wetlands and 8,781 linear feet of stream – within the Middle Potomac-Occoquan-Anacostia (02070010), Patuxent (0206006), and Gunpowder-Patapsco (0206003) Watersheds.

GV has secured access to four (4) mitigation sites in the two (2) of the three (3) watersheds where the impacts are anticipated to occur. These mitigation sites comprise a total of 185 acres of land in the Patuxent and Middle Potomac watersheds and are depicted in Figure 1.

This Phase I Mitigation Plan was developed as part of the SCMAGLEV Compensatory Mitigation Plan and presents ecologically feasible “in-kind” stream and wetland mitigation capable of fully compensating for the proposed SCMAGLEV stream and wetland impacts. The four (4) mitigation sites will collectively provide the required compensatory mitigation through a combination of stream restoration, wetland creation, wetland restoration and enhancement, wetland preservation, and stream and wetland buffer restoration and preservation. This Phase I Mitigation Plan has been prepared in accordance with the Maryland Department of the Environment (MDE) Phase I Mitigation Plan – Required Information Revised July 30, 2019 (Phase I Checklist) and meet the requirements defined in 33 CFR Part 332 Compensatory Mitigation for Losses of Aquatic Resources dated April 10, 2008. Any mitigation plan elements required by MDE or the Federal Rules not included in this Phase I Mitigation Plan will be included in the Phase II Mitigation Plan.

2. PROPOSED STREAM & WETLAND IMPACTS

BWRR is advancing Phase I of their Northeast SCMAGLEV Project (SCMAGLEV), a high-speed rail line that will link downtown Baltimore with Union Station in Washington, DC via Baltimore-Washington International Airport. BWRR analyzed alignment alternatives and selected the J-03 alternative as the preferred alternative based on the minimization of impact to regulated resources, among other factors. The impacts were analyzed, and the total required mitigation was determined by BWRR. The preferred J-03 alternative is anticipated to permanently impact 23.62 acres of wetland and 8,781 linear feet of stream within the Middle Potomac, Patuxent, and Gunpowder-Patapsco watersheds. Additionally, 11.19 acres of forested wetland are proposed for conversion to emergent wetland. A total of 32.65 non-tidal wetland mitigation units and 9,103 linear feet of stream mitigation are proposed to mitigate for the proposed SCMAGLEV permanent stream and wetland impacts and impacts resulting in resource conversion.

The total amount of wetland mitigation required reflects the MDE’s existing impact/replacement ratios considering the wetland classification and wetland type data, including non-tidal wetlands of special state concern (NTWSSC). Tables 1 and 2 summarizes the impacts to, and mitigation requirements for, wetlands and streams by watershed.

Table 1 – Wetland Impacts & Mitigation Requirements by HUC 8 Watershed

*Refer to updated Table 3a in the CMP for wetland mitigation requirements by HUC 8 and MDE 8 digit watersheds

Table 2 – Stream Impacts & Mitigation Requirements by HUC8 Watershed

*Refer to updated Table 3b in the CMP for stream mitigation requirements by HUC 8 and MDE 8 digit watersheds

3. MITIGATION SITE SEARCH

Four (4) scalable mitigation sites (in multiple watersheds) to provide the required stream and wetland mitigation for the SCMAGLEV Project. Since the impacts in the Gunpowder-Patapsco are small, out of watershed mitigation in the Patuxent is proposed. As a result, the site search focused on the Middle Potomac-Occoquan-Anacostia (02070010) and Patuxent (0206006) watersheds. Consistent with State and Federal Rules, GV initially searched for stream and wetland mitigation credit availability commercial mitigation banks. There are no mitigation banks in the Middle Potomac. Within the Patuxent, there is one (1) active mitigation bank; however, this is a single user mitigation bank for the benefit of Calvert County and these credits are unavailable to BWRR. As a result, permittee responsible mitigation is required for the proposed SCMAGLEV impacts.

3.1. Site Search Summary

The Middle Potomac and Patuxent Watersheds are some of the most urbanized in the state of Maryland. There is a dearth of suitable mitigation sites and particularly those of scale (greater than five [5] acres), which can generate even a fraction of the total anticipated nontidal wetland mitigation units and stream mitigation required by BWRR. In the case of any mitigation project, scale plays a critical role in its viable establishment, operation, and self-maintenance. Scale is even more important given the amount of stream and wetland mitigation needed by BWRR for the SCMAGLEV Project.

In addition to scale, other key factors in site selection included restoration feasibility, site accessibility, potential for “in-kind” (emergent, scrub-shrub or forested habitat) replacement of lost functions, landowner willingness to participate in the mitigation project, existing easements and encumbrances, and potential for traditional development. In some cases, the most attractive mitigation sites (large undeveloped parcels) are difficult to secure because many landowners are not willing to sell or place a permanent conservation easement on their land, since encumbering or selling off a portion of the property may limit uses on the remaining areas of the property. This is common in highly developed watersheds and is the case with several suitable sites of scale identified by GreenVest within the Middle Potomac and Patuxent watersheds. Note that the mitigation site search did not include sites owned by public agencies such as Maryland-National Capital Park and Planning Commission, Prince George’s County or other Counties, Maryland Department of Natural Resources, U.S. Department of Agriculture, etc. due to the challenges associated with securing a regulatory agency-approved site protection mechanism (e.g., conservation easement) on these properties.

GV’s core business model is securing land to develop and fully-deliver compensatory mitigation and other ecological assets to public and private entities. As such, GV is constantly searching for, and securing access to, suitable land. GV has actively searched for mitigation sites in the Middle Potomac and Patuxent watersheds for more than 5 years and has developed an extensive site search database. This database was developed through site search efforts that focused on the development of “in-kind” stream and wetland mitigation for a variety of nontidal wetland types (emergent, scrub-shrub or forested habitat). The search aimed to identify properties with potential for wetland creation along with degraded aquatic resources (including stream) with high potential for sustainable, functional improvement through restoration and enhancement. Preservation of existing high quality and functioning resources was also a consideration in site identification. The site search included disturbed areas, areas in agricultural production, former wetland areas that may now be degraded, areas adjacent

or connected to existing nontidal wetlands, waterways or within the 100-year floodplain, sites with mapped hydric soils, and areas that are accessible to necessary construction equipment.

The Middle Potomac site search included more than fifty-five (55) potential mitigation sites. Of these sites, ten (10) sites were considered viable mitigation sites and access was secured. Of the viable sites, five (5) sites have been developed, or are under development by GreenVest, as mitigation for other users. Three (3) were selected for development as mitigation sites for the SCMAGLEV Project based on a watershed approach (Section 3.2). A total of twenty-six (26) sites were identified, investigated, and eliminated. The most common reasons for site elimination were “Property Availability”, “Environmental Factors”, and “Within FAA Separation Zone”. An additional nineteen (19) sites were identified as potential mitigation sites and are currently being assessed. Site search results in the Middle Potomac are presented in Figure 2.

The Patuxent site search included more than seventy (70) potential mitigation sites. Of these sites, five (5) sites were considered viable mitigation sites and access was secured. Of the viable sites, two (2) sites have been developed, or are under development by GreenVest, as mitigation for other users. One (1) site was selected for development as a mitigation site for the SCMAGLEV Project based on a watershed approach (Section 3.2). A total of thirty (30) sites were identified, investigated and eliminated. The most common reasons for site elimination were “Property Availability”, “Environmental Factors”, and “Within FAA Separation Zone”. An additional thirty-five (35) sites were identified as potential mitigation sites and are currently being assessed. Site search results in the Patuxent are presented in Figure 3.

3.2. Watershed Approach to Replacing Lost Acreage & Function

To select the mitigation sites for the SCMAGLEV Project from the identified viable mitigation sites (Section 3.1), GV employed a watershed approach. The objective of the watershed approach to site selection is to select the sites that will provide the most benefit to the watershed considering watershed impairments and trends within the watershed related to habitat loss, water quality, and development.

Many of the elements of a watershed approach to site selection are site search parameters described in Section 3.1. In addition, GV referenced available watershed plans for the Patuxent River and the Middle Potomac River watersheds developed by a variety of public and private entities including the Maryland State Highway Administration, Anne Arundel County, and Prince George’s County. Specific watershed plans referenced in the watershed approach to siting the mitigation include the following:

- 2017-2018 Biennial Report - Implementation of the Patuxent River Policy Plan prepared by Maryland Department of Planning with the Patuxent River Commission. March 2019.
- Upper Patuxent River Sediment TMDL Restoration Plan prepared by Anne Arundel County. November 2016.
- Non-Tidal Patuxent River Lower and Middle Watersheds Sediment TMDL Restoration Plan prepared Anne Arundel County. January 2020.
- Restoration Plan for Nontidal Sediment in the Patuxent River Lower and Middle Watersheds prepared by Prince George’s County. July 2019.

- Impervious Restoration and Coordinated Total Maximum Daily Load Implementation Plan (Patuxent River Upper Watershed & Potomac River Montgomery County Watershed) prepared by Maryland Department of Transportation, State Highway Administration Watershed Implementation Plan. October 2016.
- Watershed Existing Condition Report for the Potomac River Watershed prepared by Prince George's County. December 2014.

These watershed plans identify the predominant watershed impairments and the proposed restoration plan/goals aimed at addressing the impairments. In these watersheds, the primary impairments are related to total maximum daily load (TMDL) of sediment and nutrients (nitrogen and phosphorous). As noted in Section 3.1, these watersheds are among the most developed in Maryland and the historic development trend continues resulting in the construction of additional impervious surface, habitat loss, and impacts to aquatic resources.

Of the identified viable mitigation sites, GV selected the four (4) mitigation sites that most effectively support the sustainability and/or improvement of aquatic resources in the Patuxent and Middle Potomac watersheds (considering watershed impairment). All of the mitigation sites focus on water quality and habitat improvements that include stream stabilization, floodplain reconnection, wetland creation and restoration, wetland preservation, flood attenuation, and nutrient cycling. On a watershed scale, the proposed mitigation sites offset both functional losses associated with the SCMAGLEV impacts and trends in watershed impairment. Further, these mitigation sites are large-scale, and in developed areas of the watershed, further contributing to maintaining and improving the quality and quantity of aquatic resources in these watersheds. The selected mitigation sites are described in Section 3.3.

Each mitigation site has stream and wetland restoration components. Preliminarily, each site was evaluated for both stream and wetland functional improvement which were compared against the functional losses associated with the SCMAGLEV Project impacts. We will provide a more granular comparison of anticipated functional losses to those provided in each mitigation site in the Phase II mitigation plan. We are confident that these mitigation projects will provide sufficient functional improvement to offset the proposed functional losses and is consistent with the Federal Mitigation Rule of no net loss of aquatic resource function.

Stream restoration will be assessed using the Maryland Stream Mitigation Framework (MSMF). Note that MDE and USACE are currently developing the MSMF as a standard tool for assessing stream functional improvement in mitigation projects. GV, in coordination with MDE and USACE, has effectively used it on other mitigation projects. The stream restoration functional improvement will be completed as part of the Phase II Mitigation Plan.

Wetland restoration will be assessed using a wetland functional assessment methodology to be determined in coordination with MDE and USACE. GV, in coordination with MDE and USACE, has effectively used the Evaluation of Planned Wetlands (EPW) method of assessing wetland function and functional improvement on other mitigation projects. MDE and USACE are currently developing a standard wetland functional assessment tool. GV will use EPW unless the MDE and USACE wetland functional assessment tool is available at the time the Phase II is being prepared. The wetland functional assessment will be completed as part of the Phase II Mitigation Plan.

3.3. Selected Sites

GV selected four (4) mitigation sites based on the site search and watershed approach assessment. GV has secured access to each for the purposes of developing compensatory mitigation for the SCMAGLEV Project. These four (4) sites were selected specifically for their location, scale and restoration potential which collectively are well aligned with the SCMAGLEV mitigation requirements. These sites are in the Middle Potomac and the Patuxent watersheds and comprise a total of 185 acres of land. Combined, these mitigation sites have the potential to generate over 47 wetland mitigation units and over 13,900 linear feet of stream mitigation. Note that this exceeds the required mitigation described in Section 2 and summarized in Tables 1 and 2. Planning for the development of mitigation credit in excess of the required mitigation ensures that sufficient mitigation will be provided in anticipation of potential variations in the underlying SCMAGLEV Design or developmental constraints on any of the individual mitigation sites. Table 3 summarizes the selected mitigation sites and mitigation site locations are depicted on Figure 1. The selected mitigation sites are described in detail in Sections 4 through 7. Supporting documentation for each site is included as Attachments 1 through 4.

Table 3 – Summary of Total Available Mitigation

Mitigation Site	Watershed	Land Area (acre)	Stream (LF)	Wetland Units
Parker Lane	Middle Potomac	50	4,480	15.44
Brinkley Road	Middle Potomac	15	2,019	5.98
Mill Swamp Expansion	Middle Potomac	40	3,239	9.95
Lake Collington	Patuxent	80	4,202	16.06
Totals:		185	13,940	47.43

4. PARKER LANE STREAM & WETLAND MITIGATION PROJECT

The Parker Lane Stream and Wetland Mitigation Project (PLMP) is located at 12720 Parker Lane, Clinton, Maryland on one privately-owned parcel. The project site is in the Atlantic Coastal Plain physiographic province and in the Piscataway Creek drainage (Maryland 8-Digit Watershed 02140203) of the Middle Potomac-Anacostia-Occoquan Watershed (HUC 02070010). All supporting documentation associated with the PLMP is provided in Attachment 1. The site location depicted on a 7.5-minute topographic map is included in Attachment 1 as Exhibit 1.

The PLMP site possesses the necessary chemical, physical, and biological composition; lacks ecological constraints; and complies with the site selection criteria of the Federal Rules on Compensatory Mitigation at 33 CFR 332 and the rules, policy, and guidance authorized under the Maryland Non-Tidal Wetlands Protection Act, as well as Section 106 of the National Historic Preservation Act (Section 4.3), Federal Aviation Administration (FAA) Advisory Circular (No. 150/5200-33B) and the State/Federal Endangered Species Acts (Section 4.2). The following subsections provide details related to these required Phase I Mitigation Plan elements. Where necessary, additional information will be provided in the Phase II Mitigation Plan.

4.1. Mitigation Site Description

The PLMP property is privately owned and is currently in active agricultural use as pasture, and hay and row crop cultivation. The site has been used for livestock ranching and row crop production for more than a century. The site includes a farmhouse and several agriculture support structures. The site has been historically manipulated to drain low lying areas to increase agricultural production. Drainage manipulations have included the installation of network of drains and ditches and straightening streams to bypass farmed areas. These manipulations are currently draining the farmed wetlands, altering site hydrology, and are causing degradation of the existing stream resources including vertical and lateral instability. Site streams are incised and/or entrenched and disconnected from their historic floodplains, have poor biological health and wildlife habitat, and are contributing nutrient and sediment load to Piscataway Creek and receiving waters. These degraded aquatic resources are the focus of the PLMP restoration which includes wetland creation, wetland enhancement, wetland preservation, stream restoration, and stream and wetland buffer creation and enhancement.

Note that there are extensive forested wetlands within the floodplain of Piscataway Creek located on the PLMP site. These wetlands are located adjacent to and downgradient of the farmed portion of the site. These forested wetlands are in good condition and will be preserved and integrated with the restoration, creation and enhancement elements as part of the PLMP. The streams and wetlands in the preservation area also serve as a good reference system for functioning aquatic resources in this watershed.

The farmhouse and associated agricultural facilities located on the upgradient portion of the property are excluded from the proposed mitigation project. This area includes a farm pond, access road, and an upland forested area. The PLMP Conceptual Mitigation Plan is included as Attachment 1, Exhibit 2. Select site photographs are included as Attachment 1, Exhibit 3.

Stream Restoration Summary

The objective of the stream restoration is to improve the overall stream function by improving the hydraulic and geomorphic functions. Improvement in physicochemical and biology stream functions are anticipated but not relied upon to achieve the targeted functional improvement. The stream restoration includes the removal of the drainage system and restoration of four headwater tributaries to Piscataway Creek. Two tributaries will be realigned to their historic and more stable alignment/planform with improved connectivity to their historic floodplain wetlands. The restoration of these channels will include creation of bankfull benches, bank grading, bank stabilization structures, wood and rock grade control structures, and the introduction of woody material. The stream restoration will be fully integrated into the surrounding wetland restoration. Due to site constraints, two stream channels cannot be realigned. These streams are incised and, in some reaches, entrenched. Regenerative step pool storm conveyances (SPSC) are proposed to be installed in the footprint of these channels to convert surface storm flow to shallow groundwater flow which will support groundwater recharge and provide water quality improvement to downstream waters.

Wetland Restoration Summary

A forested wetland system, fully integrated with the proposed stream restoration, will be created/restored from the existing farmed upland and farmed wetlands at the site. Over 15 acres of wetland creation and restoration (and associated buffer) will be combined with the existing forested wetlands to restore and preserve approximately 50 acres of continuous headwater stream and wetland habitat.

The main objective of the project's wetland elements is to establish and enhance wetland hydrology/hydroperiod, topography, vegetative structure and overall function. Function will be further enhanced by integrating the wetland enhancement/restoration element with the stream restoration and existing forested habitat. The restoration will be accomplished by excavating and grading to targeted wetland elevations and topography such that groundwater will substantially contribute to the proposed hydroperiod and surface water contributions will be retained. The proposed excavation, evaluation of current drainage area, and the contribution of more frequent bankfull discharge will support wetland hydrology establishment and maintenance of hydric soils. A detailed evaluation of site hydrology, the development of a water budget, and completion of a site grading plan will be completed as part of the Phase II Mitigation Plan.

Upon the completion of grading activity, GV will implement a site-specific native planting plan aimed at restoring a forested wetland community that will meet the hydrophytic and diversity composition requirements of the standard monitoring protocols for forested wetland sites. The selected vegetation will be based, in part, on the wetland species thriving within the onsite reference communities. The planting plan will be developed as part of the Phase II Mitigation Plan. The planted areas will be completely enclosed in deer exclusion fencing to allow for proper establishment while promoting maximum structural development and diversity. A proactive approach to maintenance will ensure that the restored wetlands stay on a trajectory to reaching self-maintaining equilibrium. GV will also implement an invasive species management program aimed at controlling invasive and non-native species to enable the establishment and success of the planted and seeded native wetland vegetation.

Additional Site Information

This PLMP meets specific objectives of the MDE’s Prioritizing Sites for Wetland Restoration, Mitigation and Preservation in Maryland. This site is located in an MDE Priority Restoration Watershed and it will specifically restore and close gaps in existing green infrastructure corridors, create an additional green infrastructure hub, and restore/protect headwater wetlands and streams.

Green Infrastructure hubs and corridors are also identified along the southern boundary of the PLMP by Maryland Department of Natural Resources (DNR). Green Infrastructure is a network of undeveloped land that provides ecosystem services and marketable goods and services for the state. This mitigation project provides an opportunity to both enhance existing natural resources within the project area and support the premise of Green Infrastructure.

According to information available from the Water Resources Registry, the PLMP site is currently a gap in the Maryland Biological Stream Survey’s monitored stream network and has been identified for:

- Riparian Preservation and Restoration,
- Stormwater Natural Infrastructure Preservation,
- Upland Preservation and Restoration,
- Wetland Preservation and Restoration, and
- Biodiversity Conservation.

The PLMP site is also contiguous with Priority Conservation Areas such as Targeted Ecological Areas and Green Infrastructure. The project site is located outside of the Critical Area and/or the Resource Protection Zone (RPZ) and no associated restrictions or limitations will apply.

Proposed Mitigation Units

The PLMP has the potential to develop 4,480 lf of stream restoration and 15.44 wetland mitigation units. The stream mitigation will be developed by restoring several unnamed tributaries to Piscataway Creek. Wetland mitigation units will be developed through creation, enhancement, and preservation. A summary of the proposed wetland mitigation is provided in Table 4 below and included on the Conceptual Mitigation Plan (Attachment 1, Exhibit 2).

Table 4 – Parker Lane Mitigation Site Wetland Mitigation Summary

Mitigation Type	Acres	SF	Credit Ratio	Mitigation Units
Wetland Enhancement	8.62	375,395	1.5 :1	5.75
Wetland Creation	6.79	295,945	1.0 :1	6.79
Wetland Preservation	25.68	1,118,615	10 :1	2.57
Wetland Buffer Preservation	1.13	49,398	20 :1	0.06
Stream and Wetland Buffer Enhancement	4.17	181,818	15 :1	0.28
Stream Buffer	3.07	133,688	0 :1	0.00
Totals	49.47	2,154,858	-	15.44

4.2. Rare, Threatened & Endangered Species

GreenVest prepared and transmitted agency coordination trilogy letters for presence or absence of rare, threatened, and endangered species (USFWS, DNR Heritage) and fisheries (DNR PRD/Fisheries, National Marine Fisheries Service [NMFS]). Copies of the trilogy letters and results received to date are provided with other regulatory correspondence in Attachment 1, Exhibit 4.

The USFWS Information for Planning and Consultation (IPAC) Environmental Conservation Online System (ECOS) identified the northern long eared bat (*Myotis septentrionalis*) as threatened in the vicinity of the subject site. No critical habitats were identified. In addition, the Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Areas did not identify any areas that primarily contain habitat for state listed rare, threatened, or endangered (RTE) species.

Based on preliminary database screenings and restoration plans as proposed we do not anticipate any negative impacts to RTE species.

4.3. Archaeological & Cultural Resources

GreenVest prepared and transmitted agency coordination trilogy letters for historic/cultural resources to the Maryland Historic Trust (MHT). The Trilogy letters and results received to date are included in Attachment 1, Exhibit 4.

The Parker Farm was evaluated for the National Registry of Historic Places on October 15, 2001 by a reviewer from MD-SHA. The evaluation did not recommend the property for eligibility under the National Registry due to major renovations that have taken place at the farmhouse. From the National Registry Eligibility Review Form:

“...Although the property is associated with late 19th and early 20th century agriculture in Prince George’s County and it retains agricultural outbuildings, the main house has undergone major alterations and has lost sufficient integrity to be considered eligible for the National Register of Historic Places (NRHP).”

Therefore, the property is not included in the National Register of Historic Places. However, the property is listed in the Maryland Inventory of Historic Properties according to Maryland’s Cultural Resource Information System (MEDUSA). The proposed mitigation would not impact any of the existing structures on the property (farmhouse, outbuildings, tobacco barn, etc.).

MHT files indicate that two prehistoric archeological sites (18PR623 and 18PR622) have been identified within the PLMP area. The two sites were identified during a Phase I archeological survey that was carried out by URS Corporation, Inc. in 2002 as part of the planning efforts for Maryland Route 210 wetland mitigation work. While site 18PR623 was determined to be ineligible for the National Register of Historic Places, site 18PR622 was determined to be eligible for listing in the National Register. The site represents the remains of a Late Woodland hamlet that was likely occupied by a single family and contains intact features associated with a refuse pit and a house structure. Based on the presence of the 18PR622 archaeological site, MHT requested, and GV provided, additional detail related to the proposed stream and wetland activities at the site. Following MHT’s review of the additional information, MHT issued a no adverse effect determination for the site:

“On May 6, 2020, GreenVest provided MHT with additional project information including site plans, proposed excavation depths, staging area locations, etc. Following our review of this more detailed information, it is our opinion that the proposed stream and wetland restoration work will have no ADVERSE effect on historic properties, including archeological site 18PR622. No cultural resources investigations are warranted for this particular undertaking for Section 106 purposes. This concludes MHT's historic preservation review for the Parker Five Stream and Wetland Restoration project in Prince George's County.”

4.4. Easements & Encumbrances

Three (3) easements were identified on the subject property. One (1) easement is associated with a telecommunication tower located on the far northern extent of the site. The telecommunication tower and associated easement do not conflict with the proposed mitigation area. Two (2) easements are associated with Washington Suburban Sanitary Commission (WSSC) sanitary sewer lines. The easements are located on the western property boundary along Piscataway Road (SR 223) and within the forested floodplain along Piscataway Creek. The WSSC easement along Piscataway Road do not conflict with the proposed mitigation area. The WSSC easement along Piscataway Creek is in the proposed preservation area and the WSSC easement area will be excluded from the mitigation area. An easement map depicting the location of the identified easements is included as Attachment 1, Exhibit 5.

No other easements are known to currently exist on or are planned for the subject property that conflict with the proposed mitigation area. GV will secure a title report for the PLMP as part of the Phase II Mitigation Plan to confirm the location of the identified easements and that there are no other easements in conflict with the proposed mitigation area. GV will provide details related to any other easements identified in the Phase II Mitigation Plan.

4.5. Permit Requirements

The PLMP will require State, Federal, and local permits. Coordination with other entities may be required. Site-specific permit requirements will be determined during the development of the Phase II Mitigation Plan. The following is a summary of potential permits and approvals for the PLMP.

Federal

- USACE Individual Permit (with SCMAGLEV Project Authorization) or Mitigation Site-Specific Nationwide 27 (to be determined)

State

- MDE Letter of Authorization (from MDE Wetlands and Waterways)
- MDE General Permit for Stormwater Associated with Construction Activity

County (Prince George's County)

- Stormwater Concept Review
- Floodplain Review
- Grading Permit (rough & fine grading, if applicable)
- Street Construction Permit (MOT Plan, if applicable)
- Soil Conservation District Soil Erosion & Sediment Control Plan Approval

Maryland-National Capital Park and Planning Commission (M-NCPPC)

- Design Review (if applicable)
- Natural Resources Inventory
- Tree Conservation Plan

Other Approvals

- Utility Coordination (if applicable)
- WSSC Project Review (if applicable) (Section 4.4)
- DNR Project Review (Section 4.2)
- DNR Roadside Tree Permit (if applicable)
- USFWS Project Review (Section 4.2)
- MHT Project Review (Section 4.3)

4.6. Schedule

It is anticipated that the PLMP design and permitting phase will take approximately 12 months. Prior to the commencement of construction, it is anticipated that an additional 3 to 4 months will be required to secure all remaining permits and approvals including the Phase II Mitigation Plan approval.

Construction is anticipated to take 12 months including planting, as-built survey, and construction completion documentation. The timing and duration on construction is dependent on prevailing site conditions during construction and applicability of time of year restrictions.

The regulatory maintenance and monitoring period is anticipated to be 10 years following the completion of construction.

A detailed schedule is included as Attachment 1, Exhibit 6.

5. BRINKLEY ROAD STREAM & WETLAND MITIGATION PROJECT

The Brinkley Road Stream and Wetland Mitigation Project (BRMP) is located at 3601 Brinkley Road, Temple Hills, Maryland on one privately-owned parcel. The project site is in the Atlantic Coastal Plain physiographic province and in the Potomac River Upper Tidal drainage (Maryland 8-Digit Watershed 02140201) of the Middle Potomac-Anacostia-Occoquan Watershed (HUC 02070010). All supporting documentation associated with the BRMP is provided in Attachment 2. The site location depicted on a 7.5-minute topographic map is included in Attachment 2 as Exhibit 1.

The BRMP site possesses the necessary chemical, physical, and biological composition; lacks ecological constraints; and complies with the site selection criteria of the Federal Rules on Compensatory Mitigation at 33 CFR 332 and the rules, policy, and guidance authorized under the Maryland Non-Tidal Wetlands Protection Act, as well as Section 106 of the National Historic Preservation Act (Section 5.3), Federal Aviation Administration (FAA) Advisory Circular (No. 150/5200-33B) and the State/Federal Endangered Species Acts (Section 5.2). The following subsections provide details related to these required Phase I Mitigation Plan elements. Where necessary, additional information will be provided in the Phase II Mitigation Plan.

5.1. Mitigation Site Description

The BRMP property was previously operated as Golfzilla Driving Range that included a mini golf course and driving range. Golfzilla has been abandoned for several years and the old facilities are in general disrepair. The central portion of the site is the former driving range field and consists largely of unmaintained grass with little to no species or microtopographic diversity. Along the northwestern edge of the site is a forested wetland that receives runoff from the driving range field from a small channel/ditch originating in the field. The channel/ditch conveys surface water around the western edge of the property and ultimately confluent with Henson Creek. This forested wetland has poor structural and species diversity and invasive species dominate the buffer. Maryland-National Capital Park and Planning (M-NCPPEC) owns the upstream property on the north side of Brinkley Road, the parcel on the opposite bank of Henson Creek (to the east), and the adjacent downstream parcel to the southwest.

Sand deposits along the banks of Henson Creek indicate that at least some infrequent high flows do leave the channel and access the floodplain; however, Henson Creek is incised throughout this reach with vertical banks in many locations. Gravel and sand bars are highly mobile and offer poor habitat for fish and macroinvertebrates. The eroding banks and mobile bed load are contributing nutrient and sediment load to the Potomac River and receiving waters. These degraded aquatic resources are the primary focus of the BRMP restoration, which includes wetland creation, wetland enhancement, wetland preservation, stream restoration, and stream and wetland buffer creation and enhancement.

The BRMP Conceptual Mitigation Plan is included as Attachment 2, Exhibit 2. Select site photographs are included as Attachment 2, Exhibit 3.

Stream Restoration Summary

The objective of the stream restoration is to improve the overall stream function by improving the hydraulic and geomorphic functions. Improvement in physicochemical and biological stream functions are anticipated but not relied upon to achieve the targeted functional improvement. Within the central portion of the BRMP, a new stream channel will be created to convey runoff through the restored wetland. The channel will be entirely realigned to create a natural planform and be fully integrated with the proposed wetland creation/restoration elements. Overbank flows will spread out over the restored wetland floodplain. Channel excavation will establish self-sustaining planform, geometry, pool depths, and pool to pool spacing within the range for stable C4 stream channels. Woody material and channel bed material (sand and gravel) will be salvaged from onsite clearing operations to the maximum extent practicable.

Stream restoration of Henson Creek will provide functional uplift by improving floodplain connectivity, lateral stability, riparian vegetation, and adding large woody debris. A recently completed stream restoration project upstream of the Brinkley Road bridge, and the bridge opening itself, limit the extent to which the invert elevation of Henson Creek can be modified; however, the low berm present along the BRMP that prevents more frequent access to the floodplain will be regraded to Bank Height Ratio of 1.2 or less to allow floodwaters to access the site. Lateral stability and increased large woody debris will be achieved by stabilizing the actively eroding outer meander bends by regrading to provide an enhanced pool and a smoother curve with an appropriate radius. Log vanes or other large woody debris structures would be used to provide bank protection and geomorphic uplift. Riparian vegetation will be improved through a robust planting plan to improve the vegetative cover along the stream banks. The stream restoration approach is based on stable natural channel design principles and is intended to promote self-maintenance and optimal habitat conditions.

The stream restoration will also protect nearby infrastructure including the recently constructed Henson Creek Trail and sanitary sewer lines through channel and streambank stabilization.

Wetland Restoration Summary

Presently, the driving range provides very few functions or values compared to its historic condition. The site represents a significant opportunity to create ecological uplift by re-establishing and improving functionality and value. Historically, the site was a mosaic of forested uplands and wetlands within the floodplain of Henson Creek. Under historic conditions, this site would have provided flood control, groundwater recharge, stormwater management, sediment trapping/sequestration, nutrient cycling, transformation and sequestration and wildlife habitat. In its present condition, there is very little vegetated community composition/structure or function. The main objective of the project's wetland elements is to establish and enhance wetland hydrology/hydroperiod, topography, vegetative structure and overall function. Function will be further lifted by integrating the wetland enhancement/restoration elements with the stream restoration and existing forested habitat. A detailed evaluation of site hydrology, the development of a water budget, and completion of a site grading plan will be completed as part of the Phase II Mitigation Plan.

The presence of functioning wetlands with high infiltration capacity within the restored stream's floodplain will serve to de-synchronize flood peak discharges and reduce the erosion and flooding

currently taking place within, and associated with, Henson Creek. Providing additional floodplain storage for Henson Creek will also improve downstream water quality, reduce water velocities and erosion potential, reduce the potential for flooding on other private properties downstream. This stormwater management function is particularly important during storm events and will prevent erosion and sedimentation related damage that occurs during periods of high flow after even nominal storm events. In this way, the restored wetlands will serve to maintain water quality within the restored stream, making it viable invertebrate, amphibian and potentially fish, habitat. Benefits to wildlife, both within the site and in downstream aquatic habitats, will be significant.

Upon the completion of grading activity, GV will implement a site-specific native planting plan aimed at restoring a forested wetland system that will meet the hydrophytic and diversity composition requirements for forested wetland sites. The selected species will be based, in part, on the wetland species thriving within the existing reference communities near the site. The planting plan will be developed as part of the Phase II Mitigation Plan. The planted areas will be completely enclosed in deer exclusion fencing to allow for proper establishment while promoting maximum structural development and diversity. A proactive approach to maintenance will ensure that the restored wetlands stay on a trajectory to reaching self-maintaining equilibrium. GV will also implement an invasive species management program aimed at controlling invasive and non-native species to enable to establishment and success of the planted and seeded native wetland vegetation.

Additional Site Information

This BRMP meets specific objectives of the MDE's Prioritizing Sites for Wetland Restoration, Mitigation and Preservation in Maryland. According to information available from the Water Resources Registry and Prince George's County Geographic Information System (PGAtlas), the BRMP site is currently a gap in the Maryland Biological Stream Survey's monitored stream network and has been identified for:

- Riparian Preservation and Restoration,
- Stormwater Natural Infrastructure Preservation,
- Upland Preservation,
- Within the Effective FEMA 100-YR Floodplain,
- Infill of a Green Infrastructure Gap,
- Infill for Forest Interior Dwelling Species habitat,
- Wetland Preservation, and
- Inclusion in the Biodiversity Conservation Network.

The project site is located outside of the Critical Area and/or the Resource Protection Zone (RPZ) and no associated restrictions or limitations will apply.

The urbanized watershed condition, plus cumulative wetland/stream impacts within the greater Middle Potomac-Anacostia-Occoquan Watershed, underwrites the value of restoring scarce urban resources in the form of a fully integrated floodplain wetland/stream system. This project will help support local and regional watershed, County, State and Federal programmatic objectives for aquatic habitat, wildlife habitat, TMDL-mandated reductions and water quality improvement.

Beyond the re-establishment of specific biological, chemical and physical functions, this project will also yield a specific set of socio-economic and ecological values. Creation of designated areas where flooding should occur helps protect downstream property and human health. Vegetated wetlands also serve to filter sediment from runoff and floodwaters. These systems also contribute detrital export to downstream systems during the fall and winter and provide valuable habitat for resident and migratory wildlife. Additionally, this project will become an extension of the downstream Henson Creek Stream Valley Corridor.

Proposed Mitigation Units

The BRMP has the potential to develop 2,109 lf of stream restoration and 5.98 wetland mitigation units. The stream restoration will be developed through the restoration of Henson Creek (1,109 lf) and creation of a headwater channel (910 lf) within the driving range field including restoring the confluence with Henson Creek. Wetland mitigation units will be developed through wetland creation, wetland enhancement, and wetland preservation. A summary of the proposed wetland mitigation is provided in Table 5 below and included on the Conceptual Mitigation Plan (Attachment 2, Exhibit 2).

Table 5 – Brinkley Road Mitigation Site Wetland Mitigation Summary

Mitigation Type	Acres	SF	Credit Ratio	Mitigation Units
Wetland Enhancement	6.46	281,209	1.5 :1	4.30
Wetland Creation	1.36	59,243	1.0 :1	1.36
Wetland Preservation	1.27	55,468	10 :1	0.13
Stream and Wetland Buffer Enhancement	1.81	78,633	15 :1	0.12
Stream and Wetland Buffer Preservation	1.37	59,862	20 :1	0.07
Stream Buffer	0.87	37,682	0 :1	0.00
Totals	13.13	572,095	-	5.98

5.2. Rare, Threatened & Endangered Species

GreenVest prepared and transmitted agency coordination trilogy letters for presence or absence of rare, threatened, and endangered species (USFWS, DNR Heritage) and fisheries (DNR PRD/Fisheries, National Marine Fisheries Service [NMFS]). The Trilogy letters are included in Attachment 2, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan.

The USFWS Information for Planning and Consultation (IPAC) Environmental Conservation Online System (ECOS) identified the northern long eared bat (*Myotis septentrionalis*) as threatened in the vicinity of the subject site. No critical habitats were identified, and no forest clearing is anticipated as part of the mitigation project. In addition, the Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Areas did not identify any areas within or near the BRMP that contain habitat for state listed rare, threatened, or endangered (RTE) species.

Based on preliminary database screenings and plans as proposed we do not anticipate that RTE species will be impacted.

5.3. Archaeological & Cultural Resources

GreenVest prepared and transmitted agency coordination trilogy letters for historic/cultural resources to the Maryland Historic Trust (MHT). The Trilogy letters are included in Attachment 2, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan. A review of the following online resources showed that no historic or cultural resources are present within, or adjacent to the BRMP:

- Historic District National Register,
- Maryland Inventory of Historic Places,
- Maryland Historic Markers,
- MHT Preservation Easements, and
- Prince George's County
 - Historic Districts,
 - Historic Environmental Settings, and
 - Historic Sites.

Based on review of these resources, GreenVest does not anticipate the possibility of impacts to any historic or cultural resources at the BRMP.

5.4. Easements & Encumbrances

Washington Suburban Sanitary Commission (WSSC) sanitary sewer lines are located on the east side of the site and run parallel to Henson Creek. In some cases, the lines are under Henson Creek with sewer manholes completely exposed within the stream channel. Sanitary lines have easements that vary from 10 feet to 50 feet from the centerline of the sewer line and is dependent on the size of the sewer line. GV coordinated with WSSC to identify the location of the sanitary sewer lines in the area and have considered them as a design constraint for the BRMP. WSSC currently has a permit pending with the Maryland Department of Environment for Bank Stabilization (of Henson Creek) within the BRMP (Tracking number 202060069). The WSSC bank stabilization project is limited to the WSSC easement area. GV will continue to coordinate with WSSC through their design review process to ensure that the existing sanitary sewer lines are protected and stabilized during the restoration and to ensure that the proposed restoration project considers WSSC's planned bank stabilization project. Constraints associated with the WSSC easements generally include avoiding grading and planting within easements, stabilizing exposed or otherwise compromised lines, and installing pipe protection (consistent with WSSC specifications) at constructed stream crossings. The WSSC easements will be excluded from the BRMP easement areas. The exact extent of the easements will be determined in coordination with WSSC during the development of the design plans and Phase II Mitigation Plan. An easement figure depicting the approximate location of the WSSC lines and easement areas is included as Attachment 2, Exhibit 5.

No other easements are known to currently exist on the subject property that conflict with the proposed mitigation area. Note that there will likely be a stormwater easement associated with a proposed stormwater management pond on the upland/developed portion of the site; however, that will not conflict with, or will be excluded from, the proposed mitigation. GV will secure a title report

for the BRMP as part of the Phase II Mitigation Plan to confirm that there are no other easements in conflict with the proposed mitigation area and will provide any additional information related to easements.

5.5. Permit Requirements

The BRMP will require State, Federal, and local permits. Coordination with other entities may be required. Site-specific permit requirements will be determined during the development of the Phase II Mitigation Plan. The following is a summary of potential permits and approvals for the BRMP.

Federal

- USACE Individual Permit (with SCMAGLEV Project Authorization) or Mitigation Site-Specific Nationwide 27 (to be determined)

State

- MDE Letter of Authorization (from MDE Wetlands and Waterways)
- MDE General Permit for Stormwater Associated with Construction Activity

County (Prince George's County)

- Stormwater Concept Review
- Floodplain Review
- Grading Permit (rough & fine grading, if applicable)
- Street Construction Permit (MOT Plan, if applicable)
- Soil Conservation District Soil Erosion & Sediment Control Plan Approval

Maryland-National Capital Park and Planning Commission (M-NCPPC)

- Design Review (if applicable)
- Natural Resources Inventory
- Tree Conservation Plan Revision

Other Approvals

- Utility Coordination (if applicable)
- WSSC Project Review (Section 5.4)
- DNR Project Review (Section 5.2)
- DNR Roadside Tree Permit (if applicable)
- USFWS Project Review (Section 5.2)
- MHT Project Review (Section 5.3)

5.6. Schedule

It is anticipated that the BRMP design and permitting phase will take approximately 12 months. Prior to the commencement of construction, it is anticipated that an additional 3 to 4 months will be required to secure all remaining permits and approvals including the Phase II Mitigation Plan approval.

Construction is anticipated to take 9 to 12 months including planting, as-built survey, and construction completion documentation. The timing and duration on construction is dependent on prevailing site conditions during construction and applicability of time of year restrictions.

The regulatory maintenance and monitoring period is anticipated to be 10 years following the completion of construction.

A detailed schedule is included as Attachment 2, Exhibit 6.

6. MILL SWAMP NORTH STREAM & WETLAND MITIGATION PROJECT

The Mill Swamp North Stream and Wetland Mitigation Project (MSNMP) is located between Marshall Hall Road (MD-227) and Ward Place, in Bryans Road, Maryland on six privately-owned parcels. The project site is in the Atlantic Coastal Plain physiographic province and in the Potomac River Middle Tidal drainage (Maryland 8-Digit Watershed 02140102) of the Middle Potomac-Anacostia-Occoquan Watershed (HUC 02070010). All supporting documentation associated with the MSNMP is provided in Attachment 3. The site location depicted on a 7.5-minute topographic map is included in Attachment 3 as Exhibit 1.

The MSNMP site possesses the necessary chemical, physical, and biological composition; lacks ecological constraints; and complies with the site selection criteria of the Federal Rules on Compensatory Mitigation at 33 CFR 332 and the rules, policy, and guidance authorized under the Maryland Non-Tidal Wetlands Protection Act, as well as Section 106 of the National Historic Preservation Act (Section 6.3), Federal Aviation Administration (FAA) Advisory Circular (No. 150/5200-33B) and the State/Federal Endangered Species Acts (Section 6.2). The following subsections provide details related to these required Phase I Mitigation Plan elements. Where necessary, additional information will be provided in the Phase II Mitigation Plan.

6.1. Mitigation Site Description

The MSNMP is located on six parcels owned by four landowners. Land use is a mix of large-lot residential, active agriculture (i.e., crop and hay production), forest, and pasture. Current owners do not actively farm the properties themselves but rent out the land to tenant farmers. The site has been used for livestock ranching and row crop production for more than a century. Although houses and outbuildings are located on several of the properties, no structures are located within areas prosed for compensatory mitigation. The site has been historically manipulated to drain low lying areas to increase agricultural production. Drainage manipulations have included ditches and straightening streams to bypass farmed areas. These manipulations are currently draining the farmed wetlands, altering site hydrology, and are causing severe degradation of the existing stream resources including vertical and lateral instability. Site streams are incised and/or entrenched and disconnected from their historic floodplains, have poor biological health and wildlife habitat, and are contributing nutrient and sediment load to Mill Swamp Creek and receiving waters. These degraded aquatic resources are the focus of the MSNMP restoration, which includes wetland restoration, wetland enhancement, wetland preservation, stream restoration, and stream and wetland buffer enhancement and preservation.

Note that there are forested wetlands within the MSNMP site. These wetlands are located adjacent to and downgradient of the farmed areas and surrounding several stream reaches. These forested wetlands are in good condition and will be preserved as part of the MSNMP. The MSNMP Conceptual Mitigation Plan is included as Attachment 3, Exhibit 2. Select site photographs are included as Attachment 3, Exhibit 3.

The MSNMP is located adjacent to, and upstream of, GV's Mill Swamp Mitigation Project currently under development for the Maryland Department of Transportation (MDOT) Managed Lanes Study

(MLS). The MDOT MLS project is depicted on the MSNMP Conceptual Mitigation Plan and the MSNMP. Note that the MSNMP was referred to as the Mill Swamp Expansion Mitigation Project (MSEMP) in some of the regulatory correspondence. Combined, both projects restore, enhance, and preserve approximately 45 acres of wetland and over 6,000 linear feet of stream. The restoration of large contiguous tracts of land has ecology of scale benefits including water quality and wildlife habitat that are greater than if these projects were completed on non-contiguous properties.

Stream Restoration Summary

The objective of the stream restoration is to improve the overall stream function by improving the hydraulic and geomorphic functions. Improvement in physicochemical and biology stream functions are anticipated but not relied upon to achieve the targeted functional improvement. The stream restoration includes the restoration of the incised channels of Mill Swamp Creek and its tributaries. Incised channels that currently drain the nearby shallow water table will have instream structures installed to raise the baseflow water surface elevation, thereby enhancing hydrology and supporting floodplain wetlands. Woody material will be incorporated into instream structures throughout the project reaches and additional coarse woody debris will be added to all pools. The woody debris will increase instream habitat complexity, channel roughness, and bedform diversity. A robust native planting plan will establish dense rooting perennial and woody vegetation on the stream banks of all reaches to increase bank stability and habitat value. The stream restoration (3,239 linear feet) will be fully integrated into the surrounding wetland restoration.

Wetland Restoration Summary

A forested wetland system, fully integrated with the proposed stream restoration, will be restored or enhanced from the existing farmed wetlands at the site. A total of 15 acres of wetland restoration and enhancement (and associated buffer enhancement and preservation) and an additional 5 acres of existing wetlands will be preserved.

The main objective of the project's wetland elements is to establish and enhance wetland hydrology/hydroperiod, topography, vegetative structure and overall function. Function will be further enhanced by integrating the wetland enhancement/restoration elements with the stream restoration and existing forested habitat. Mitigation and ecological/functional uplift will be generated by:

- Establishing a hydrologic regime that reintegrates streams, wetlands, and groundwater by:
 - increasing stream invert elevations,
 - stabilizing stream banks and channel bed,
 - realigning certain channels,
 - creating available instream habitat, and
 - excavating floodplain wetlands;
- Reconditioning site soils;
- Creating physical habitat diversity and microtopography;
- Controlling non-native and invasive species (NNI); and
- Establishing a self-maintaining native forested plant community adapted to current and future site conditions.

The proposed excavation is intended to better capture contribution from the current drainage area and the inputs from more frequent overbank flow events will support wetland targeted hydrology including establishment and maintenance of hydric soils. A detailed evaluation of site hydrology, the development of a water budget, and completion of a site grading plan will be completed as part of the Phase II Mitigation Plan.

Upon the completion of grading activity, GV will implement a site-specific native planting plan aimed at restoring a forested wetland system that will meet the hydrophytic and diversity composition required under the standard monitoring protocols for forested wetland sites. The selected species will be based, in part, on the wetland species thriving within the existing forested wetlands on the site (and adjacent to the site). The planting plan will be developed as part of the Phase II Mitigation Plan. The planted areas will be completely enclosed in deer exclusion fencing to allow for proper establishment while promoting maximum structural development and diversity. A proactive approach to maintenance will ensure that the restored wetlands stay on a trajectory to reaching self-maintaining equilibrium. GV will also implement an invasive species management program aimed at controlling invasive and non-native species to enable to establishment and success of the planted and seeded native wetland vegetation.

Additional Site Information

This site meets specific objectives of the MDE's Prioritizing Sites for Wetland Restoration, Mitigation and Preservation in Maryland. This site is located in a MDE Priority Restoration Watershed and it will specifically create, enhance, and preserve gaps in existing green infrastructure corridor, including streams, wetlands, and floodplains.

According to information available from the Water Resources Registry, the MSNMP site is currently a gap in the Maryland Biological Stream Survey's monitored stream network and has been identified for:

- Riparian Preservation and Restoration,
- Stormwater Natural Infrastructure Preservation,
- Upland Preservation and Restoration,
- Wetland Preservation and Restoration, and
- Biodiversity Conservation

The MSNMP site is also contiguous with Priority Conservation Areas such as Biodiversity Conservation Areas, Targeted Ecological Areas, Forest Interior Dwelling Species habitat, and Green Infrastructure Hubs. The project site is located outside of the Critical Area no associated restrictions or limitations will apply. The MSNMP is within or nearby the Charles County Resource Protection Zone (RPZ) where streams stream valleys, steep slopes, associated wetlands and floodplains outside the Critical Area are regulated by the County.

Proposed Mitigation Units

The MSNMP has the potential to develop 3,239 lf of stream restoration and 9.95 wetland mitigation units. The stream restoration will be developed through the restoration of Mill Swamp Creek and unnamed tributaries to Mill Swamp Creek. Wetland mitigation units will be developed through wetland creation (re-establishment), wetland enhancement, and wetland preservation. A summary of the proposed wetland mitigation is provided in Table 6 below and included on the Conceptual Mitigation Plan (Attachment 3, Exhibit 2).

Table 6 – Mill Swamp North Mitigation Site Wetland Mitigation Summary

Mitigation Type	Acres	SF	Credit Ratio	Mitigation Units
Wetland Enhancement	1.55	67,649	3 :1	0.52
Wetland Re-establishment	8.58	373,658	1 :1	8.58
Wetland Preservation	5.51	239,798	10 :1	0.55
Stream and Wetland Buffer Enhancement	2.66	115,739	15 :1	0.18
Stream and Wetland Buffer Preservation	2.62	113,953	20 :1	0.13
Totals	20.91	910,796	-	9.95

6.2. Rare, Threatened & Endangered Species

GreenVest prepared and transmitted agency coordination trilogy letters for presence or absence of rare, threatened, and endangered species (USFWS, DNR Heritage) and fisheries (DNR PRD/Fisheries, National Marine Fisheries Service [NMFS]). Copies of the trilogy letters are provided with other regulatory correspondence in Attachment 3, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan.

The USFWS Information for Planning and Consultation (IPAC) Environmental Conservation Online System (ECOS) identified the northern long eared bat (*Myotis septentrionalis*) as threatened in the vicinity of the subject site. No critical habitats were identified. In addition, the Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Areas did not identify any areas that primarily contain habitat for state listed rare, threatened, or endangered (RTE) species.

According to correspondence dated November 2, 2020 with MDNR, “the tidal freshwater Potomac in the project area is a mussel stronghold. The intertidal zone and shallow flats are excellent habitat. Tributary streams to the south (e.g., Mattawoman Creek, Reeder Run) support large mussel populations near their confluence with the Potomac. This stream could presumably have mussels. If present, further coordination and potential design considerations would be needed.” While areas further downstream and in the intertidal zone could be suitable mussel habitat, the unstable banks and high sediment load in the project reach would not provide suitable habitat for mussels. Areas of Mill Swamp Creek immediately downstream of the project area have been extensively reviewed by ecologists and geomorphologists as part of other on-going stream and wetland mitigation, to date, no evidence of mussels in the stream or shells adjacent the stream have been observed. No evidence of mussels in the stream or shells adjacent the streams proposed for restoration as part of the MSNMP was observed during a site inspection in November 2020.

Based on preliminary database screenings and plans as proposed we do not anticipate that RTE species will be impacted. Additionally, there were no RTE species impacts associated with the adjacent MDOT MLS mitigation project.

6.3. Archaeological & Cultural Resources

GreenVest prepared and transmitted agency coordination trilogy letters for historic/cultural resources to the Maryland Historic Trust (MHT). The Trilogy letters are included in Attachment 3, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan.

A review of cultural resources survey projects conducted within two miles the project area show that the vicinity of the project area has not been well surveyed, with all but one of seven surveys being completed before 1982, with those surveys incorporating little field testing. The only modern survey, conducted in 2014, resulted in the identification of two of the three sites present within one mile of the project area. Several other sites have been identified between one and two miles from the project area, nearly all of which are set along the banks of the Potomac River or near the mouths of tributaries.

Areas of historic archeological potential would be based on proximity to Ward Place and Fenwick Road, both former 18th and 19th century primary roads that have been relatively unimproved over time. Later 19th century and 20th century maps and aerial photographs indicate that there was little development of the project area until the second half of the 20th century. The 1903 map indicates that parts of the project area had been cleared and appear to have been cultivated or used as fenced pasture. Mill Swamp is not navigable and while Pomonkey Creek has likely been silted in through farming-related soil erosion runoff, it does not seem to have ever been navigable as far inland as the project area. Due to the overall intact appearance of the landforms, all areas are considered to have a high probability that any historic period cultural deposits present would remain intact.

Review of historic maps show no known Native American or colonial settlements within one mile of the site and concluded that since much of the project area is prone to flooding, it seems unlikely that the parcels on which the project area is located would have been inhabited in the later part of the 17th century or the early part of the 18th century.

6.4. Easements & Encumbrances

No easements are known to currently exist on or are planned for the subject property that conflict with the proposed mitigation area. As a result, an easement figure for the MSNMP was not developed and Attachment 3, Exhibit 5 is intentionally left blank. GV will secure a title report for the MSNMP as part of the Phase II Mitigation Plan to confirm that there are no easements in conflict with the proposed mitigation area and will provide any additional information related to easements.

6.5. Permit Requirements

The MSNMP will require State, Federal, and local permits. Coordination with other entities may be required. Site-specific permit requirements will be determined during the development of the Phase II Mitigation Plan. The following is a summary of potential permits and approvals for the MSNMP.

Federal

- USACE Individual Permit (with SCMAGLEV Project Authorization) or Mitigation Site-Specific Nationwide 27 (to be determined)

State

- MDE Letter of Authorization (from MDE Wetlands and Waterways)
- MDE General Permit for Stormwater Associated with Construction Activity

County (Charles's County)

- Conceptual & Site Stormwater Management Plan
- Floodplain Review
- Development Services Permit (including Maryland State Highway Administration review required by Charles County)
- Maintenance of Traffic Plan (if applicable)
- Charles Soil Conservation District Sediment & Erosion Control Plan Approval
- Forest Conservation Plan Review (preliminary and final) (if applicable)

Other Approvals

- Utility Coordination & Project Review (if applicable)
- DNR Project Review (Section 6.2)
- DNR Roadside Tree Permit (if applicable)
- USFWS Project Review (Section 6.2)
- MHT Project Review (Section 6.3)

6.6. Schedule

It is anticipated that the MSNMP design and permitting phase will take approximately 12 months. Prior to the commencement of construction, it is anticipated that an additional 3 to 4 months will be required to secure all remaining permits and approvals including the Phase II Mitigation Plan approval.

Construction is anticipated to take 12 months including planting, as-built survey, and construction completion documentation. The timing and duration on construction is dependent on prevailing site conditions during construction and applicability of time of year restrictions.

The regulatory maintenance and monitoring period is anticipated to be 10 years following the completion of construction.

A detailed schedule is included as Attachment 3, Exhibit 6.

7. LAKE COLLINGTON STREAM & WETLAND MITIGATION PROJECT

The Lake Collington Stream and Wetland Mitigation Project (LCMP) is located in the Collington Branch Stream Valley near Collington Trade Center in Upper Marlboro, Maryland. The LCMP is located on five (5) privately owned properties. The project site is in the Atlantic Coastal Plain physiographic province and in the Patuxent Watershed (HUC 02060006). All supporting documentation associated with the LCMP is provided in Attachment 4. The site location depicted on a 7.5-minute topographic map is included in Attachment 4 as Exhibit 1.

The LCMP site possesses the necessary chemical, physical, and biological composition; lacks ecological constraints; and complies with the site selection criteria of the Federal Rules on Compensatory Mitigation at 33 CFR 332 and the rules, policy, and guidance authorized under the Maryland Non-Tidal Wetlands Protection Act, as well as Section 106 of the National Historic Preservation Act (Section 6.3), Federal Aviation Administration (FAA) Advisory Circular (No. 150/5200-33B) and the State/Federal Endangered Species Acts (Section 7.2). The following subsections provide details related to these required Phase I Mitigation Plan elements. Where necessary, additional information will be provided in the Phase II Mitigation Plan.

7.1. Mitigation Site Description

The LCMP property consists of five (5) privately owned parcels that consist of forested floodplains associated with Collington Branch and a former water treatment lagoon referred to as Lake Collington. Based on aerial photographs, Lake Collington was constructed between 1964 and 1970. WSSC lines located on the LCMP properties were likely installed during the same period (Section 7.4). Lake Collington no longer functions as a water treatment lagoon and structures related to the treatment operations are currently abandoned. It is unknown when its use as a treatment lagoon was discontinued but is estimated around 1980. Prior to use as a water treatment lagoon, the area of Lake Collington was cleared and used for agriculture. This area appears to be cleared and cultivated in the 1964 and 1957 aerial photographs. The other LCMP parcels located within the floodplain of Collington Branch were forested in 1957 and have been forested since.

The development of Collington Trade Center in the 1980's, and the development of the surrounding areas in the 1970's and 1980's, significantly altered the hydrology of Collington Branch and its tributaries. Additionally, these resources were highly disturbed during the installation of the WSSC lines including realignment and straightening of some reaches. As a result of these impairments, both Collington Branch and its tributaries are degraded.

Lake Collington and the degraded tributaries are the focus of the LCMP. The LCMP includes the creation of wetlands through the conversion of the former water treatment lagoon to forested wetlands. The proposed forested wetlands are consistent with the wetlands that were historically in the footprint of Lake Collington prior to site development (for agricultural use). The surrounding wetlands are high quality, have been generally undisturbed for over 60 years and will be preserved as part of the LCMP. These wetlands also serve as a good reference system for functioning aquatic resources in this watershed. The existing tributaries to Collington Branch will be restored and a new

headwater channel will be created in the footprint of Lake Collington. The LCMP Conceptual Mitigation Plan is included as Attachment 4, Exhibit 2. Select site photographs are included as Attachment 4, Exhibit 3.

Stream Restoration Summary

The objective of the stream restoration is to create additional headwater stream channel and improve the overall stream function of existing tributaries to Collington Branch. The hydraulic and geomorphic stream functions of the existing channels will be improved through stream enhancement. These channels are severely degraded from stormwater flow from the adjacent Collington Center. Where possible, these channels will be realigned to achieve a stable planform; however, the extent these can be realigned may be constrained by the location of sanitary sewer lines and associated easements (Section 7.4). Selective bank grading will be completed in reaches that cannot be realigned to achieve a stable channel geometry. Vertical and lateral stability in the stream channels will be addressed through the installation of wood and stone grade control and bank stabilization structures. A headwater stream channel will be constructed within the footprint of Lake Collington and will be fully integrated with the surrounding wetland creation. Note that the proposed stream creation and enhancement does not include restoration of the main stem of Collington Branch. Collington Branch is located within the forested wetlands identified for preservation and is included in that preservation area.

Wetland Restoration Summary

Lake Collington, the former water treatment lagoon, will be converted to a forested wetland system that is fully integrated with a headwater stream channel. The treatment lagoon will be drained by breaching the berm on the south side of Lake Collington. The breach will be stabilized and connected to East Lake Trib 3. The breach will serve as the controlling elevation for water levels in the pond. A detailed evaluation of site hydrology, the development of a water budget, and completion of a site restoration plan will be completed as part of the Phase II Mitigation Plan. A total of 9.37 acres of forested wetland will be created in the footprint of Lake Collington and an additional 63.25 acres of existing wetland will be preserved.

Upon the completion of draining Lake Collington and completing grading activity, GV will implement a site-specific native planting plan aimed at restoring a forested wetland system that will meet the hydrophytic and diversity composition required under the standard monitoring protocols for forested wetland sites. The selected species will be based, in part, on the wetland species thriving within the existing forested wetlands on the site, including the preservation areas. The planting plan will be developed as part of the Phase II Mitigation Plan. The planted areas will be completely enclosed in deer exclusion fencing to allow for proper establishment while promoting maximum structural development and diversity. A proactive approach to maintenance will ensure that the restored wetlands stay on a trajectory to reaching self-maintaining equilibrium. GV will also implement an invasive species management program aimed at controlling invasive and non-native species to enable to establishment and success of the planted and seeded native wetland vegetation.

Proposed Mitigation Units

The LCMP has the potential to develop 4,202 lf of stream restoration and 16.06 wetland mitigation units. The stream restoration will be developed through the restoration of two tributaries to Collington Branch identified as East Trib 4 (1,024 lf) and East Lake Trib 3 (1,410 lf). A headwater channel identified as East Trib 3 UTA (1,768 lf) will be created in the footprint of Lake Collington and will be fully integrated with the proposed wetland restoration. Note that there is no restoration proposed on the Main Stem of Collington Branch and Collington Branch is located within the preservation area. Wetland mitigation units will be developed through wetland creation within the footprint of Lake Collington and preservation of the high quality forested wetlands within the floodplain of Collington Branch. A summary of the proposed wetland mitigation is provided in Table 7 below and included on the Conceptual Mitigation Plan (Attachment 4, Exhibit 2).

Table 7 – Lake Collington Mitigation Site Wetland Mitigation Summary

Mitigation Type	Acres	SF	Credit Ratio	Mitigation Units
Wetland Creation	9.37	408,244	1 :1	9.37
Wetland Preservation	63.25	2,755,170	10 :1	6.33
Stream and Wetland Buffer Preservation	7.32	318,685	20 :1	0.37
Totals	79.94	3,482,099	-	16.06

7.2. Rare, Threatened & Endangered Species

GreenVest prepared and transmitted agency coordination trilogy letters for presence or absence of rare, threatened, and endangered species (USFWS, DNR Heritage) and fisheries (DNR PRD/Fisheries, National Marine Fisheries Service [NMFS]). The Trilogy letters are included in Attachment 4, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan

The USFWS Information for Planning and Consultation (IPAC) Environmental Conservation Online System (ECOS) identified the northern long eared bat (*Myotis septentrionalis*) as threatened in the vicinity of the subject site. No critical habitats were identified. In addition, the Maryland Department of Natural Resources (MDNR) Sensitive Species Project Review Areas did not identify any areas that primarily contain habitat for state listed rare, threatened, or endangered (RTE) species.

GreenVest will secure available RTE surveys conducted on Collington Branch and its floodplain wetlands associated with the surrounding developments. These studies will be reviewed and considered in the development of the proposed restoration plans. A summary of identified RTE species studies from nearby properties will be included in the Phase II Mitigation Plan.

Based on preliminary database screenings and plans as proposed we do not anticipate that RTE species will be impacted.

7.3. Archaeological & Cultural Resources

GreenVest prepared and transmitted agency coordination trilogy letters for historic/cultural resources to the Maryland Historic Trust (MHT). The Trilogy letters are included in Attachment 4, Exhibit 4. Responses will be provided in the Phase II Mitigation Plan. A review of the following online resources showed that no historic or cultural resources are present within, or adjacent to the LCMP:

- Historic District National Register,
- Maryland Inventory of Historic Places,
- Maryland Historic Markers,
- MHT Preservation Easements, and
- Prince George’s County
 - Historic Districts,
 - Historic Environmental Settings, and
 - Historic Sites.

Based on review of these resources, the GreenVest does not anticipate the possibility of impacts to any historic or cultural resources at the LCMP.

7.4. Easements & Encumbrances

Washington Suburban Sanitary Commission (WSSC) sanitary sewer lines are located on the north and west sides of Lake Collington and run along the main stem of Collington Branch, through the proposed preservation areas. The sanitary lines may have easements that vary from 10 feet to 50 feet from the centerline of the sewer line and is dependent on the size of the sewer line. GV coordinated with WSSC to identify the location of the sanitary sewer lines in the area and have considered them as a design constraint for the LCMP. GV will continue to coordinate with WSSC through their design review process to ensure that the existing sanitary sewer lines are protected and stabilized during the restoration. This generally includes avoiding grading and planting within easements, stabilizing exposed or otherwise compromised lines, and installing pipe protection (consistent with WSSC specifications) at constructed stream crossings. The easements will be excluded from the LCMP mitigation areas. The exact extent of the easements will be determined in coordination with WSSC during the development of the design plans and Phase II Mitigation Plan. An easement figure depicting the location of the WSSC lines and approximate easement areas is included as Attachment 4, Exhibit 5.

No other easements are known to currently exist on, or are planned for, the subject property that conflict with the proposed mitigation area. GV will secure a title report for the LCMP as part of the Phase II Mitigation Plan to confirm that there are no other easements in conflict with the proposed mitigation area and will provide any additional information related to easements.

7.5. Permit Requirements

The LCMP will require State, Federal, and local permits. Coordination with other entities may be required. Site-specific permit requirements will be determined during the development of the Phase II Mitigation Plan. The following is a summary of potential permits and approvals for the LCMP.

Federal

- USACE Individual Permit (with SCMAGLEV Project Authorization) or Mitigation Site-Specific Nationwide 27 (to be determined)

State

- MDE Letter of Authorization (from MDE Wetlands and Waterways)
- MDE General Permit for Stormwater Associated with Construction Activity
- DNR Aquatic (Fisheries) Scientific Collection Permit

County (Prince George's County)

- Stormwater Concept Review
- Floodplain Review
- Grading Permit (rough & fine grading, if applicable)
- Street Construction Permit (MOT Plan, if applicable)
- Soil Conservation District Soil Erosion & Sediment Control Plan Approval

Maryland-National Capital Park and Planning Commission (M-NCPPC)

- Design Review (if applicable)
- Natural Resources Inventory
- Tree Conservation Plan

Other Approvals

- Utility Coordination (if applicable)
- WSSC Project Review (Section 7.4)
- DNR Project Review (Section 7.2)
- DNR Roadside Tree Permit (if applicable)
- USFWS Project Review (Section 7.2)
- MHT Project Review (Section 7.3)

7.6. Schedule

It is anticipated that the LCMP design and permitting phase will take approximately 12 months. Prior to the commencement of construction, it is anticipated that an additional 3 to 4 months will be required to secure all remaining permits and approvals including the Phase II Mitigation Plan approval.

Construction is anticipated to take 12 months including planting, as-built survey, and construction completion documentation. The timing and duration on construction is dependent on prevailing site conditions during construction and applicability of time of year restrictions.

The regulatory maintenance and monitoring period is anticipated to be 10 years following the completion of construction.

A detailed schedule is included as Attachment 4, Exhibit 6.

8. CONCLUSION

9. The four, scalable, mitigation sites identified and presented herein can provide sufficient mitigation for anticipated, conversion and permanent wetland and stream impacts associated with the SCMAGLEV Phase I Project. These sites, apart from the small impact in the Gunpowder-Patapsco, are “in-watershed” and all provide “in-kind” functional compensation. All four sites are technically feasible where the proposed mitigation is consistent with local, regional and state watershed plans and associated programmatic objectives. We respectfully request review and approval of this Phase I mitigation proposal including confirmation that these four sites comprise an appropriate and sufficient mitigation package for the SCMAGLEV Phase I Project. REFERENCES

Anne Arundel County Department of Public Works Watershed Protection and Restoration Program, 2016. Upper Patuxent River Sediment TMDL Restoration Plan. November.

Anne Arundel County Department of Public Works Watershed Protection and Restoration Program, 2020. Non-Tidal Patuxent River Lower and Middle Watersheds Sediment TMDL Restoration Plan. January.

CFR, 2008. Compensatory Mitigation for Losses of Aquatic Resources. 33 CFR PART 332. 33 U.S.C. 401 et seq.; 33 U.S.C. 1344; and Pub. 108-136. 73 FR 19670, April 10, 2008. Accessed November 2020. <https://www.swg.usace.army.mil/Portals/26/docs/regulatory/permit%20packet/33cfr332.pdf>

ESRI, 2009. USGS 7.5-Minute Topographic Quadrangle Map, Multiple Quadrangles. Accessed via ArcGIS USA Topo Maps, Published 2009.

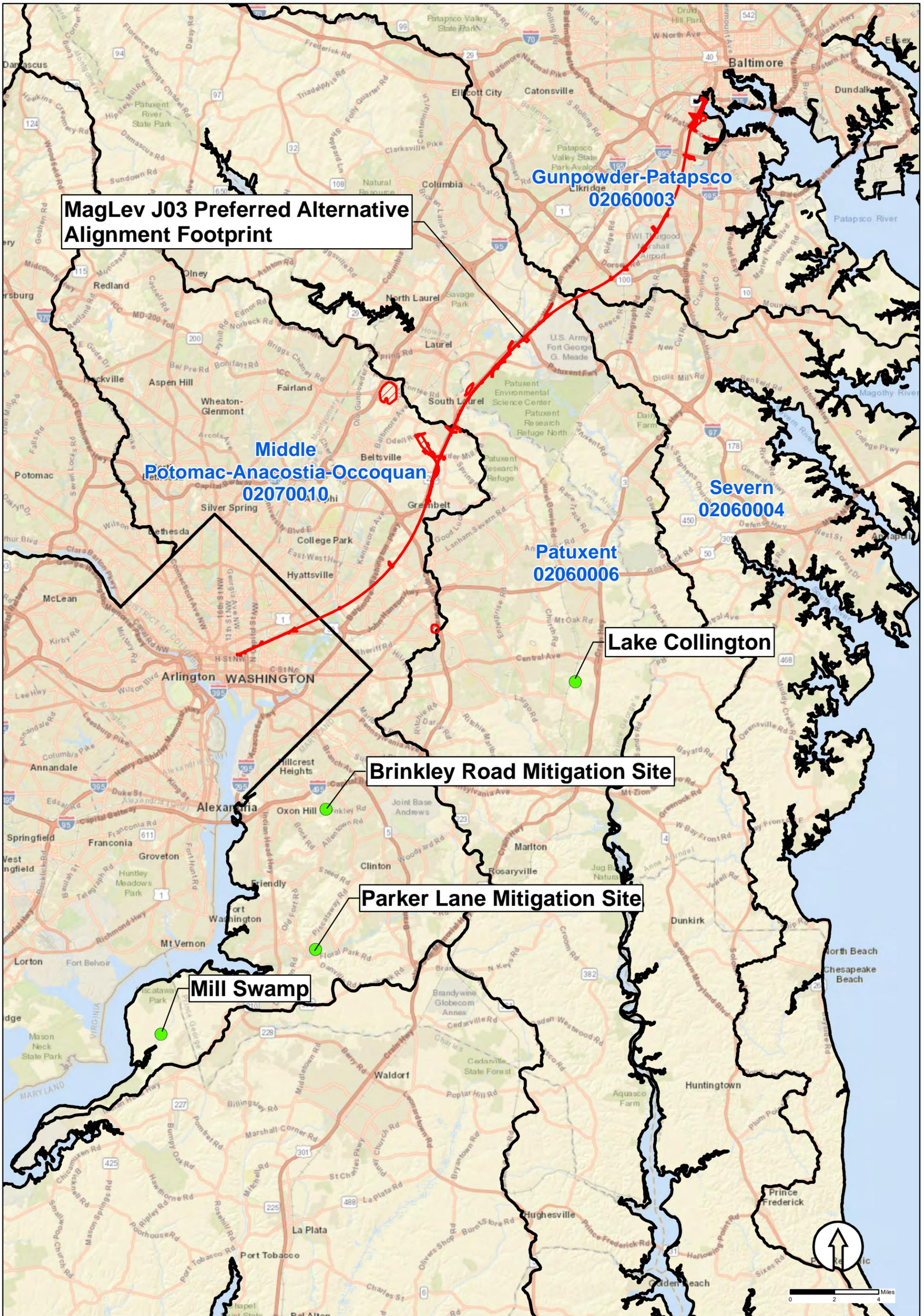
MDE, 2019. Phase I Mitigation Plan- Required Information. July 30, 2019. Accessed November 2020: https://mde.maryland.gov/programs/Water/WetlandsandWaterways/AboutWetlands/Documents/PHASE-I_requirements.pdf

Maryland Department of Planning, 2019. 2017-2018 Biennial Report - Implementation of the Patuxent River Policy Plan. March.

Prince George's County Department of the Environment Stormwater Management Division, 2019. Restoration Plan for Nontidal Sediment in the Patuxent River Lower and Middle Watersheds. July.

Prince George's County, 2014. Watershed Existing Condition Report for the Potomac River Watershed. December.

FIGURES



MagLev J03 Preferred Alternative Alignment Footprint

Middle Potomac-Anacostia-Occoquan 02070010

Gunpowder-Patapsco 02060003

Severn 02060004

Patuxent 02060006

Lake Collington

Brinkley Road Mitigation Site

Parker Lane Mitigation Site

Mill Swamp

- GreenVest Mitigation Sites
- J03 Preferred Alternative Limits
- Federal HUC8 Watershed Boundary

MagLev Mitigation Projects & Watershed Overview

Baltimore Washington Rap Rail, LLC
6 South Gay Street, Baltimore, MD

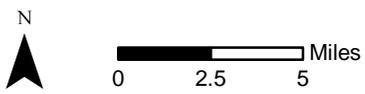
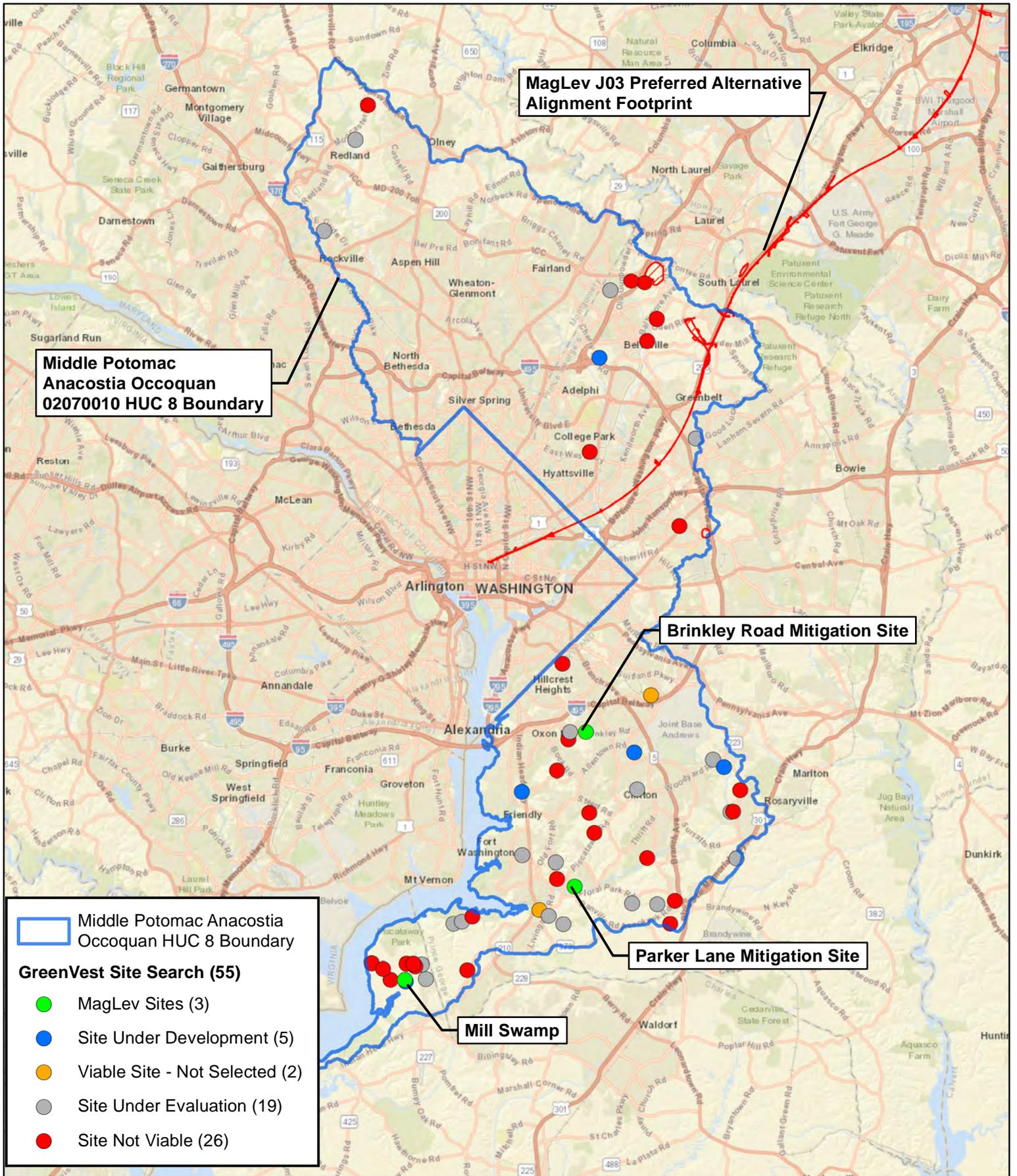
Figure 1



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0 2 4 Miles



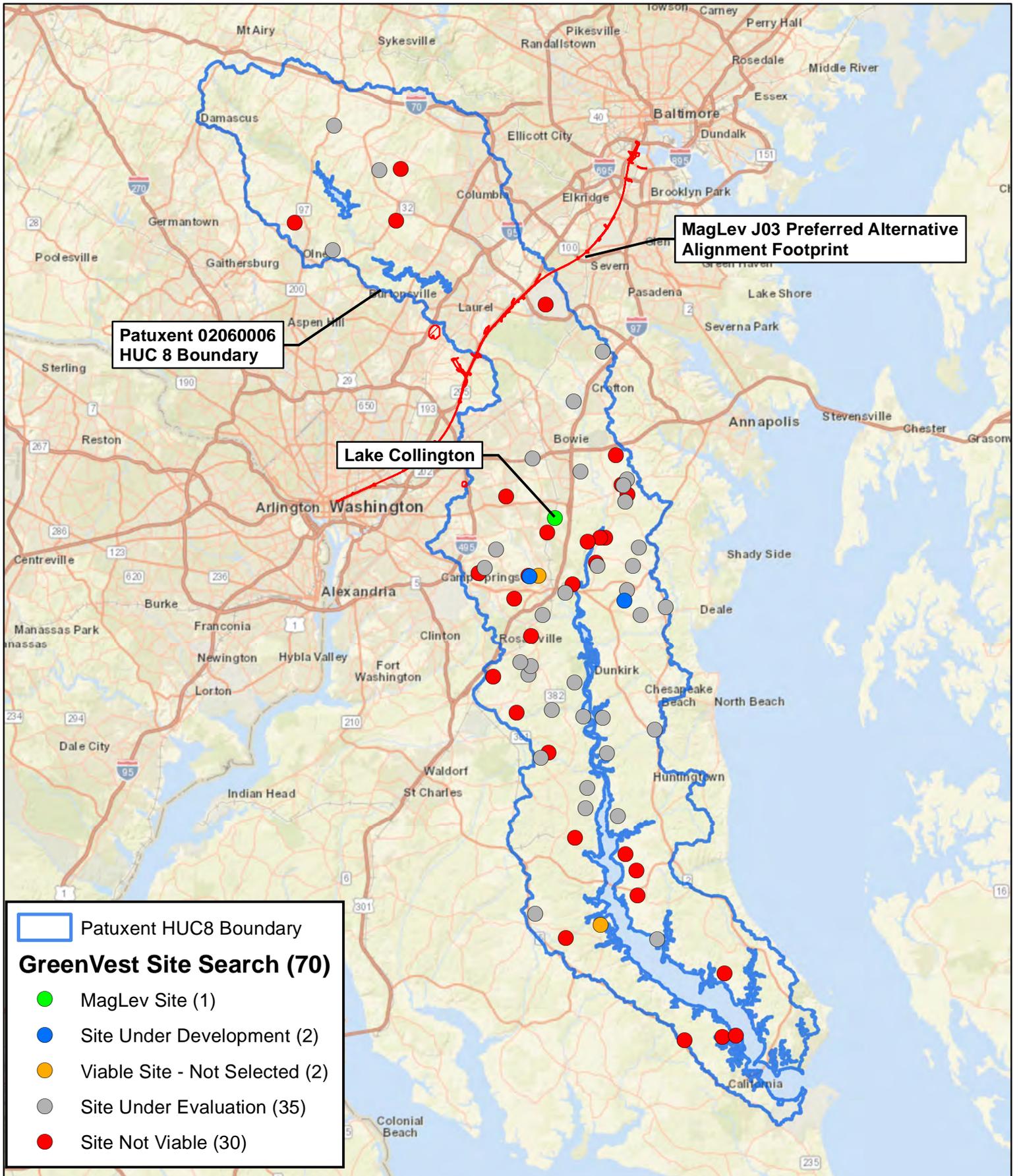
**MagLev Mitigation Site Search
Middle Potomac Anacostia Occoquan
(02070010) HUC8 Watershed**

Baltimore Washington Rapid Rail, LLC
6 South Gay Street, Baltimore, MD

Figure 2

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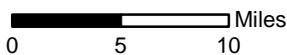
**MagLev Mitigation Site Search
Patuxent (02060006) HUC8 Watershed**

Baltimore Washington Rapid Rail, LLC
6 South Gay Street, Baltimore, MD

Figure 3

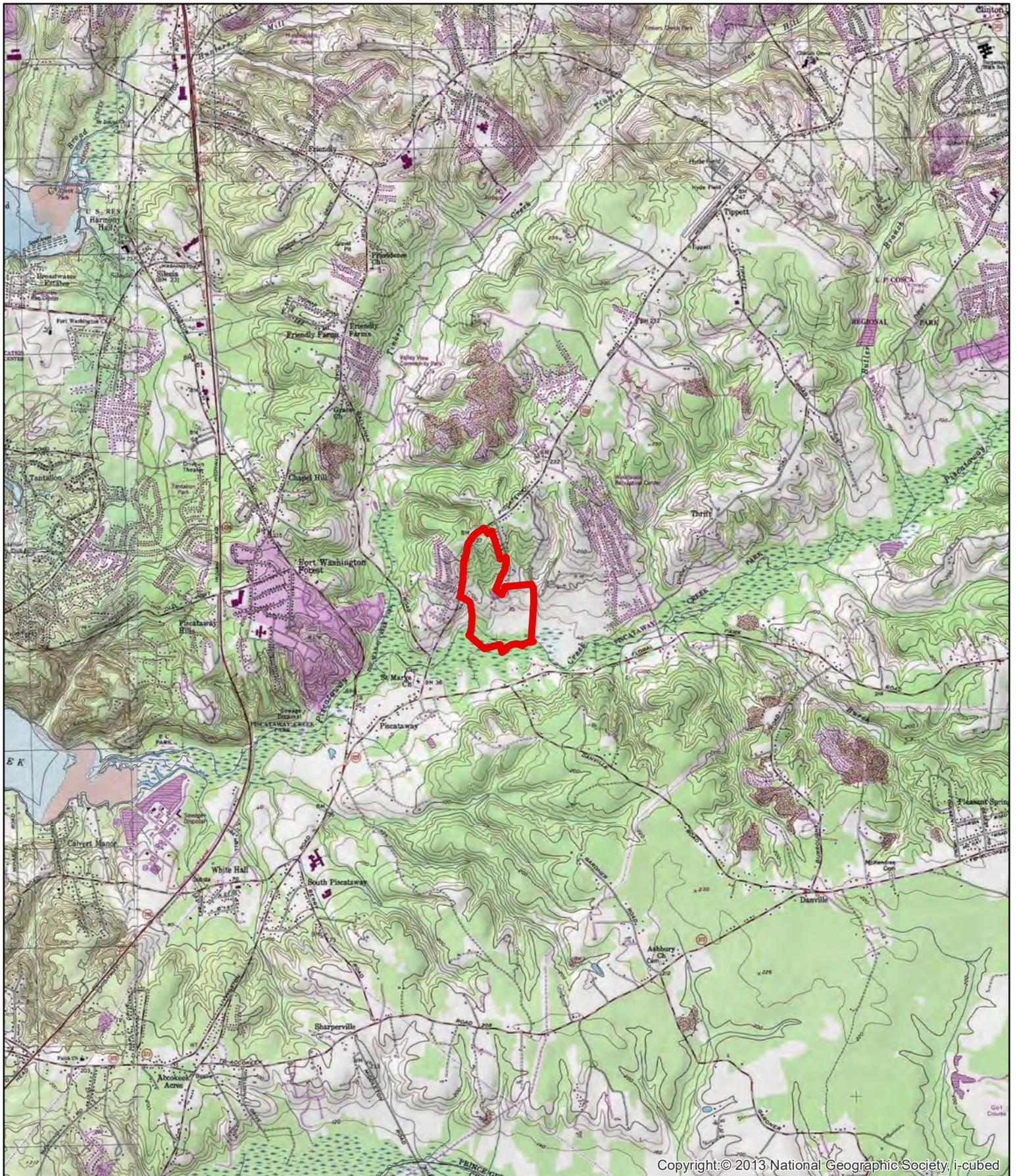


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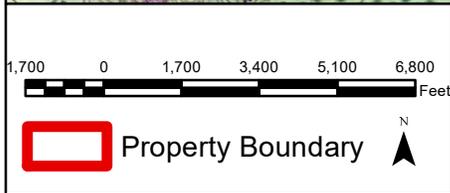


ATTACHMENT 1
PARKER LANE MITIGATION PROJECT SUPPORTING DOCUMENTATION

EXHIBIT 1 – 7.5 Minute Topographic Map



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USGS Map

Parker Lane Mitigation Site
Piscataway Quadrangle

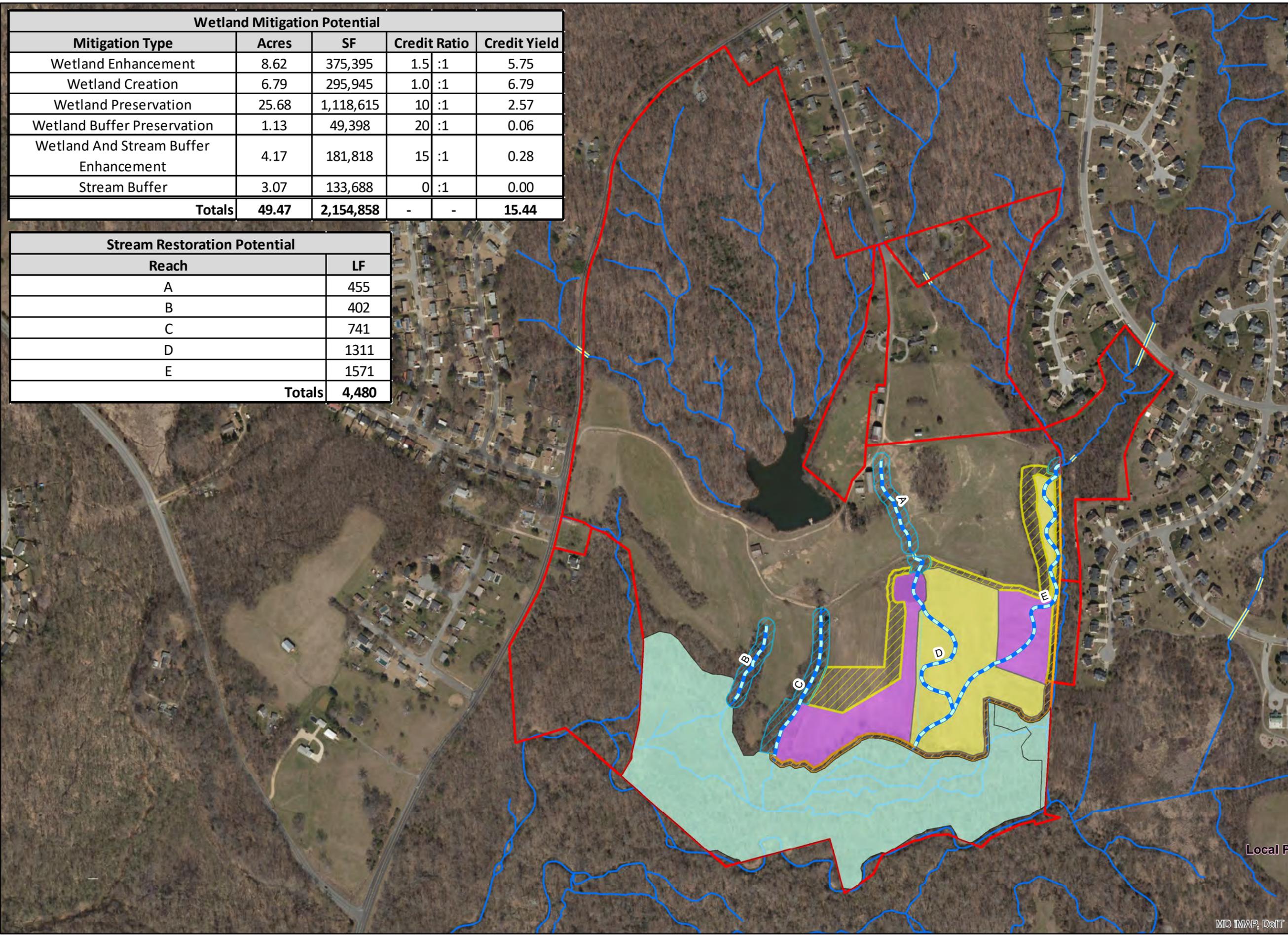


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EXHIBIT 2 – Conceptual Mitigation Plan

Wetland Mitigation Potential				
Mitigation Type	Acres	SF	Credit Ratio	Credit Yield
Wetland Enhancement	8.62	375,395	1.5 :1	5.75
Wetland Creation	6.79	295,945	1.0 :1	6.79
Wetland Preservation	25.68	1,118,615	10 :1	2.57
Wetland Buffer Preservation	1.13	49,398	20 :1	0.06
Wetland And Stream Buffer Enhancement	4.17	181,818	15 :1	0.28
Stream Buffer	3.07	133,688	0 :1	0.00
Totals	49.47	2,154,858	-	15.44

Stream Restoration Potential	
Reach	LF
A	455
B	402
C	741
D	1311
E	1571
Totals	4,480



Middle Potomac
Anacostia-Occoquan
Watershed Corridor Study

**Parker Lane Stream &
Wetland Restoration
Concept Plan**

Legend:

- Potential Stream Restoration
- Stream and Wetland Buffer Enhancement
- Wetland Buffer Preservation
- Wetland Creation
- Wetland Enhancement
- Wetland Preservation
- Stream Buffer
- Parcels of Interest
- Stream
- Drainage Connector



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Date Figure Created: 10/9/2020

EXHIBIT 3 – Select Site Photographs

**EXHIBIT 3 – Parker Ln Stream Restoration and Wetland Mitigation Site Photographs
November 2019**



Photo 1. Eastern – Upper Tributary – looking downstream from upstream terminus of tributary.



Photo 2. Eastern – Upper Tributary – looking upstream towards upstream terminus of tributary.



Photo 3. Eastern – Upper Tributary – looking upstream at undercut bank and incised channel.



Photo 4. Eastern – Upper Tributary – looking downstream towards existing farm pond.



Photo 6. Eastern – Lower Tributary – Upstream terminus at existing farm pond showing failed grade control and stream bypassing PVC pipe.



Photo 7. Eastern – Lower Tributary – Small channel facing upstream .

**EXHIBIT E – Parker Five Stream Restoration and Wetland Mitigation Site Photographs
November 2019**



Photo 8. Eastern – Lower Tributary – Downstream terminus of reach facing downstream.



Photo 9. Central Tributary – Facing downstream on right bank, eroded bank is apparent.



Photo 10. Central Tributary – Small pool feature and stream channel, facing upstream.



Photo 11. Central Tributary – Stream channel facing upstream; incising is apparent in this area.



Photo 12. Western Tributary – Facing upstream, near-vertical incised banks are apparent.



Photo 13. Western Tributary – Facing downstream, incised channel is apparent.

**EXHIBIT E – Parker Five Stream Restoration and Wetland Mitigation Site Photographs
November 2019**



Photo 14. Proposed Wetland enhancement area facing southwest towards tree line (preservation area).



Photo 15. Proposed wetland enhancement area (left of the view) and creation area (right of the view) facing south.



Photo 16. Soil sample taken from proposed wetland enhancement area displaying redoximorphic features.



Photo 17. View from the large pond north of the farm pond facing south, central and western tributaries can be seen.

EXHIBIT 4 – Regulatory Correspondence

MARYLAND DEPARTMENT OF NATURAL RESOURCES
Parker Lane Mitigation Site



December 2, 2019

Ms. Lori Byrne
DNR Wildlife & Heritage Service – Environmental Review
580 Taylor Ave.
Tawes Office Bldg E-1
Annapolis, MD 21401

Dear Ms. Byrne:

GreenVest, LLC. is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the proposed Parker Five Stream and Wetland Restoration near Piscataway Road, Maryland (See attached USGS Map). The project area lies within Prince George's County and can be located on the Piscataway USGS Topographic quarter quadrangle map. The property is identified as 12720 Parker Lane, Map 132, Grid F4, and Parcel 312 located in Clinton. The project is located entirely on one property owned by Parker Five, LLC.

The stream and wetland restoration project area was identified by GreenVest, LLC, and is intended to provide stream and wetland mitigation credits to the State Highway Administration. The proposed project includes restoration of several agricultural ditches that drain to Piscataway Creek, a Use 1 Stream; enhancement/restoration of wetlands previously converted to agricultural use, creation of additional wetlands in areas currently in agricultural production, and preservation of approximately 26 acres of existing forested floodplain along Piscataway Creek. The primary objectives of the Parker Five Stream and Wetland Restoration project are to increase overbank flows, enhance and restore wetland hydrology, reduce erosion and sedimentation and create opportunities for ecological uplift and nutrient processing. This will be accomplished by a combination of lowering the stream banks, installing instream structures for habitat, realigning portions of channels, excavating additional wetlands, plugging ditches, breaking drain tiles, creating microtopography and depressional features, and planting native trees in proposed forested wetlands and riparian areas.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

January 6, 2020

Mr. Zachary Tyszkiewicz
GreenVest, LLC
4201 Northview Drive
Suite 202
Bowie, MD 20716

RE: Environmental Review for Parker Five LLC, Stream and Wetland Resoration, 12720 Parker Lane, Clinton - Tax Map 132 Parcel 312, Prince George's County, Maryland.

Dear Mr. Tyszkiewicz:

The Wildlife and Heritage Service has determined that there are no official State or Federal records for listed plant or animal species within the delineated area shown on the map provided. As a result, we have no specific concerns regarding potential impacts or recommendations for protection measures at this time. Please let us know however if the limits of proposed disturbance or overall site boundaries change and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2019.1975.pg

**MARYLAND HISTORIC TRUST
Parker Lane Mitigation Site**



December 2, 2019

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

Dear Ms. Cole:

GreenVest, LLC. is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the proposed Parker Five Stream and Wetland Restoration near Piscataway Road, Maryland (See attached USGS Map). The project area lies within Prince George's County and can be located on the Piscataway USGS Topographic quarter quadrangle map. The property is identified as 12720 Parker Lane, Map 132, Grid F4, and Parcel 312 located in Clinton. The project is located entirely on one property owned by Parker Five, LLC.

The project area is located within the privately-owned property with forest, agriculture, and wetland land use areas. Based on historical Google Earth aerial dating back to 1988, the land uses throughout the project area have not changed over the past 31 years. All buildings are offset from the stream and are not included in the project area. No buildings or structures will be constructed, demolished, or rehabilitated within the scope of this stream restoration project.

The stream and wetland restoration project area was identified by GreenVest, LLC, and is intended to provide stream and wetland mitigation credits to the State Highway Administration. The proposed project includes restoration of several agricultural ditches that drain to Piscataway Creek, a Use 1 Stream; enhancement/restoration of wetlands previously converted to agricultural use, creation of additional wetlands in areas currently in agricultural production, and preservation of approximately 26 acres of existing forested floodplain along Piscataway Creek. The primary objectives of the Parker Five Stream and Wetland Restoration project are to increase overbank flows, enhance and restore wetland hydrology, reduce erosion and sedimentation and create opportunities for ecological uplift and nutrient processing. This will be accomplished by a combination of lowering the stream banks, installing instream structures for habitat, realigning portions of channels, excavating additional wetlands, plugging ditches, breaking drain tiles, creating microtopography and depressional features, and planting native trees in proposed forested wetlands and riparian areas.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz



January 2, 2020

Mr. Zachary Tyszkiewicz
GreenVest, LLC
4201 Northview Drive, Suite 202
Bowie, MD 20716

Re: MHT Pre-Application Review of Parker Five Stream and Wetland Restoration Project
Prince George's County, Maryland

Dear Mr. Tyszkiewicz:

Thank you for providing the Maryland Historical Trust (MHT) with information regarding the above-referenced project. In response to your request, we are reviewing the proposed work to assess potential effects on historic properties in accordance with Section 106 of the National Historic Preservation Act and the Maryland Historical Trust Act, §§ 5A-325 and 5A-326 of the State Finance and Procurement Article. We understand that the proposed stream and wetland restoration work will require a joint wetland alteration permit from the Corps and MDE and will therefore be subject to state and federal historic preservation law. Below are our preliminary comments and recommendations regarding the project's potential effects on cultural resources.

MHT files indicate that two prehistoric archeological sites (18PR623 and 18PR622) have been identified within the study area outlined in the project submittal. The two sites were identified during a Phase I archeological survey that was carried out by URS Corporation, Inc. in 2002 as part of the planning efforts for Maryland Route 210 wetland mitigation work. While site 18PR623 was determined to be ineligible for the National Register of Historic Places, site 18PR622 was, in fact, determined to be *eligible* for listing in the National Register. The site represents the remains of a Late Woodland hamlet that was likely occupied by a single family and contains intact features associated with a refuse pit and a house structure. Given the presence of this National Register-eligible site along Piscataway Creek, we are requesting that we be provided with detailed site plans illustrating the location and boundaries of all proposed ground disturbing activities and impact areas (including access roads and staging areas) so that we may assess the project's *potential* impacts on this significant resource. The plans should clearly indicate where grading and other ground-disturbing activities will be taking place and to what depth these areas will be graded. It would also be helpful if we could be provided with information regarding the depth of the existing plowzone and the level of erosion/bank disturbance that has taken place within the study area, if applicable. Upon our review of this information, we will be able to provide informed recommendations regarding what, *if any*, avoidance measures or archeological investigations will be necessary prior to construction.

We look forward to receiving the information requested above and to further coordination as project planning proceeds. If you have any questions or we may be of assistance, please do not hesitate to contact me at dixie.henry@maryland.gov /410-697-9553. Thank you for providing us with this opportunity to comment.

Sincerely,

A handwritten signature in black ink that reads "Dixie Henry". The signature is written in a cursive style with a large initial "D" and a long, sweeping tail on the "y".

Dixie L. Henry, Ph.D.
Preservation Officer
Maryland Historical Trust

DLH/201905657

cc: Abbie Hopkins (COE)
Steve Harman (COE)

May 4, 2020

Dixie L. Henry, PhD
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032

Dear Dr. Henry:

GreenVest, LLC is responding to the letter from the Maryland Historical Trust dated January 2, 2020 (attached) requesting additional information about a proposed stream and wetland restoration project in Prince George's County. GreenVest's original request for information from MHT only included the property boundary for the project parcel and did not include specific information about proposed grading and access areas. The original request resulted in identification of two archeological sites (identified as 18PR623 and 18PR622) potentially within the project study area. Additional project details including site plans, proposed ground disturbance, grading limits and depth, existing plowzone depth, and bank erosion data were requested to further assess the project's *potential* impacts on these resources. An annotated concept plan illustrating these details is attached. The plan identifies proposed access and staging areas as well as the proposed depths of excavation necessary for creation or enhancement of streams and wetlands. To our knowledge, the plowzone throughout the proposed mitigation area is approximately 1 foot deep. In most areas, GreenVest will be working within this depth. Excavation greater than 1 foot in depth is proposed for only three small areas of the project. No disturbance is proposed within forested areas on the site, including the floodplain of Patuxent River. Photographs of the four streams within the project area are attached to indicate the level of erosion along stream banks.

Hopefully, none of the project areas have the potential to impact the known archeological resources. Please let us know if you need any additional information, my phone number and email address are below. I would be happy to set up a Skype, Teams or other screenshare to walk through the design and site if that will be helpful in completing your assessment and letting us know which, if any, areas need to be avoided. Thank you for your time.

Sincerely,



David Merkey, PhD, PWS
david@greenvestus.com
443-926-1288

Western Stream

Downstream portions of the western stream have experience significant downcutting.



Central Stream

Stream bed has been excavated in the past to facilitate drainage.



Northern Stream

Upstream portions of the northern stream have become incised. Some banks are 6 or more feet high.



Eastern Stream

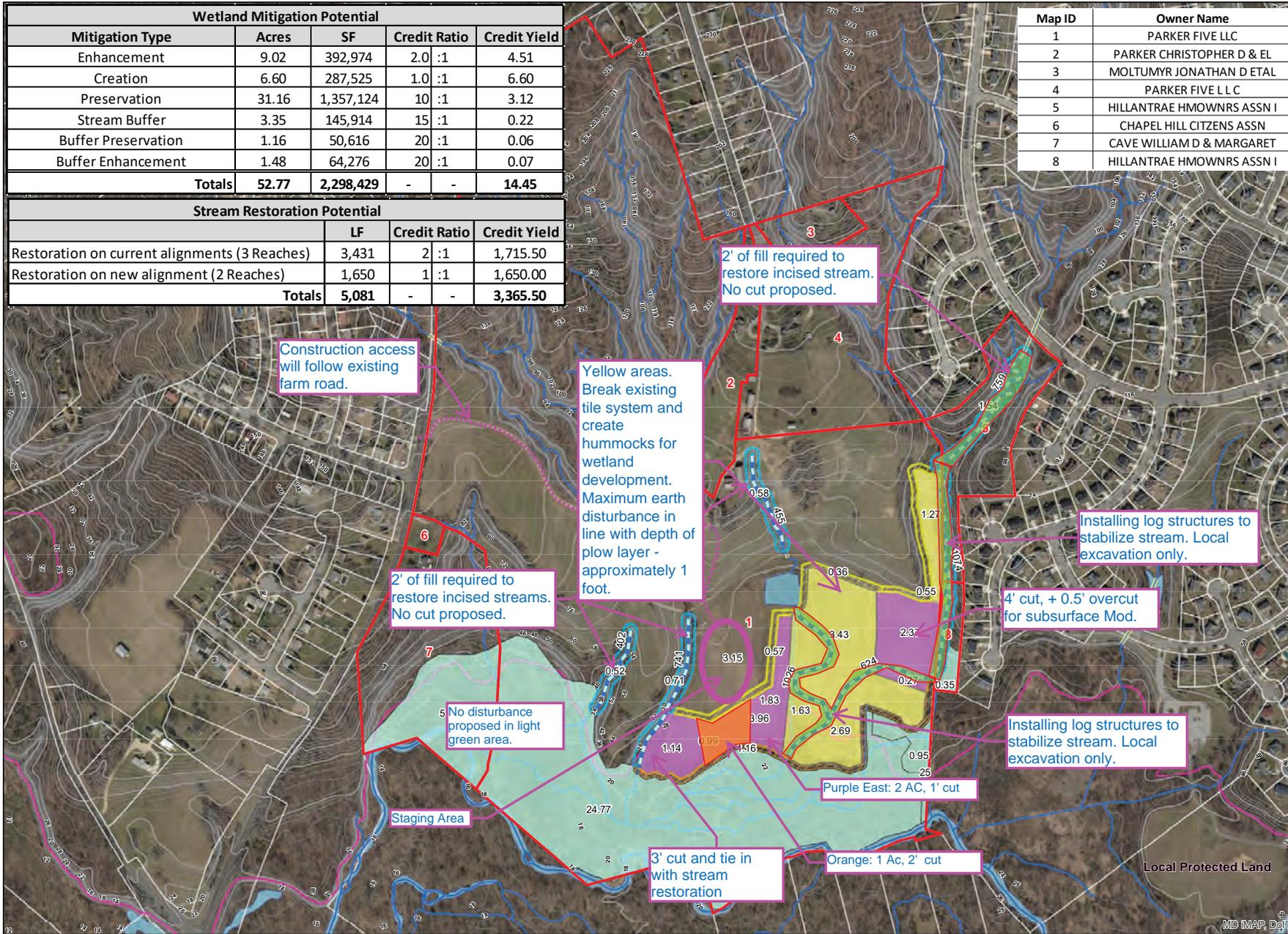
Stream banks have incised approximately 3-5 feet



Wetland Mitigation Potential					
Mitigation Type	Acres	SF	Credit Ratio	Credit Yield	
Enhancement	9.02	392,974	2.0 :1	4.51	
Creation	6.60	287,525	1.0 :1	6.60	
Preservation	31.16	1,357,124	10 :1	3.12	
Stream Buffer	3.35	145,914	15 :1	0.22	
Buffer Preservation	1.16	50,616	20 :1	0.06	
Buffer Enhancement	1.48	64,276	20 :1	0.07	
Totals	52.77	2,298,429	-	-	14.45

Stream Restoration Potential			
	LF	Credit Ratio	Credit Yield
Restoration on current alignments (3 Reaches)	3,431	2 :1	1,715.50
Restoration on new alignment (2 Reaches)	1,650	1 :1	1,650.00
Totals	5,081	-	3,365.50

Map ID	Owner Name
1	PARKER FIVE LLC
2	PARKER CHRISTOPHER D & EL
3	MOLTUMYR JONATHAN D ETAL
4	PARKER FIVE L L C
5	HILLANTRAE HMOWNRS ASSN I
6	CHAPEL HILL CITZENS ASSN
7	CAVE WILLIAM D & MARGARET
8	HILLANTRAE HMOWNRS ASSN I



Middle Potomac
Anacostia-Ocoquan
Watershed Corridor Study

Parker 5 Stream & Wetland Restoration Concept Plan

Version 1

- Legend:**
- Buffer Enhancement
 - Buffer Preservation
 - Creation
 - Enhancement
 - Preservation
 - Stream Buffer (3.35 AC)
 - Parcels of Interest
 - 100yr Floodplain
 - Stream
 - Drainage Connector
 - Potential Stream Restoration (1.17 AC)



4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500

From: David Merkey <david@greenvestus.com>

Sent: Monday, May 18, 2020 12:46 PM

To: Dixie Henry -MDP- <dixie.henry@maryland.gov>

Cc: Hopkins, Abigail A (Abbie) NAB <abbie.hopkins@usace.army.mil>; Harman, Steven S (Steve) NAB <steve.harman@usace.army.mil>; Brett Berkley <Brett@greenvestus.com>; Patrick Phillips <patrick@greenvestus.com>; Doug Lashley <Doug@greenvestus.com>; Brian Cramer <Brian@greenvestus.com>

Subject: RE: updated MHT review of Parker Five Stream and Wetland Restoration project, Prince George's County

This is great news Dixie, thank you very much.

Have a good day,

David

From: Dixie Henry -MDP- <dixie.henry@maryland.gov>

Sent: Monday, May 18, 2020 10:53 AM

To: David Merkey <david@greenvestus.com>

Cc: Hopkins, Abigail A (Abbie) NAB <abbie.hopkins@usace.army.mil>; Harman, Steven S (Steve) NAB <steve.harman@usace.army.mil>

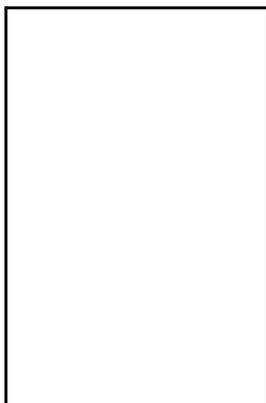
Subject: updated MHT review of Parker Five Stream and Wetland Restoration project, Prince George's County

David -- Thank you for providing MHT with additional information relating to the above-referenced project. Following our initial pre-application review in January, we had expressed concern that the proposed wetland restoration activities could potentially impact archeological site 18PR622 - a prehistoric site that has been determined to be eligible for the National Register of Historic Places (see MHT letter dated January 2, 2020).

On May 6, 2020, GreenVest provided MHT with additional project information including site plans, proposed excavation depths, staging area locations, etc. Following our review of this more detailed information, it is our opinion that the proposed stream and wetland restoration work will have no ADVERSE effect on historic properties, including archeological site 18PR622. No cultural resources investigations are warranted for this particular undertaking for Section 106 purposes. This concludes MHT's historic preservation review for the Parker Five Stream and Wetland Restoration project in Prince George's County.

I have copied Abbie Hopkins and Steve Harman at the U.S.Army Corps of Engineers so that they are aware of MHT's recommendations for this project. Please let us know if you have any questions or need further information.

- Dixie Henry



Dixie L. Henry, Ph.D.

Preservation Officer, Project Review and Compliance

Maryland Historical Trust

Maryland Department of Planning

100 Community Place

Crownsville, MD 21032

dixie.henry@maryland.gov / [410-697-9553](tel:410-697-9553)

mht.maryland.gov

[Please take our customer service survey.](#)

Planning.Maryland.gov / Census.Maryland.gov

***Please note that due to a current staff vacancy in the Project Review & Compliance Unit, the review period for complete submittals is approximately 45-60 days. Projects are reviewed in the order in which they are received. To check on the status of a submittal, please use our online search: <https://mht.maryland.gov/compliancelog/ComplianceLogSearch.aspx>.**

**U.S. FISH AND WILDLIFE SERVICE
Parker Lane Mitigation Site**



December 2, 2019

Endangered Species Project Review
US Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

To Whom It May Concern:

GreenVest, LLC. is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the proposed Parker Five Stream and Wetland Restoration near Piscataway Road, Maryland (See attached USGS Map). The project area lies within Prince George's County and can be located on the Piscataway USGS Topographic quarter quadrangle map. The property is identified as 12720 Parker Lane, Map 132, Grid F4, and Parcel 312 located in Clinton. The project is located entirely on one property owned by Parker Five, LLC.

The stream and wetland restoration project area was identified by GreenVest, LLC, and is intended to provide stream and wetland mitigation credits to the State Highway Administration. The proposed project includes restoration of several agricultural ditches that drain to Piscataway Creek, a Use 1 Stream; enhancement/restoration of wetlands previously converted to agricultural use, creation of additional wetlands in areas currently in agricultural production, and preservation of approximately 26 acres of existing forested floodplain along Piscataway Creek. The primary objectives of the Parker Five Stream and Wetland Restoration project are to increase overbank flows, enhance and restore wetland hydrology, reduce erosion and sedimentation and create opportunities for ecological uplift and nutrient processing. This will be accomplished by a combination of lowering the stream banks, installing instream structures for habitat, realigning portions of channels, excavating additional wetlands, plugging ditches, breaking drain tiles, creating microtopography and depressional features, and planting native trees in proposed forested wetlands and riparian areas.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz



United States Department of the Interior

U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575



Online Certification Letter

Today's date:

Project:

Dear Applicant for online certification:

Thank you for using the U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), we certify that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8573. For information in Delaware you should contact the Delaware Division of Fish and Wildlife, Wildlife Species Conservation and Research Program at (302) 735-8658. For information in the District of Columbia, you should contact the National Park Service at (202) 339-8309.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay)

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4527.

Sincerely,

Genevieve LaRouche
Field Supervisor

EXHIBIT 5 – Site Easement Map

Wetland Mitigation Potential				
Mitigation Type	Acres	SF	Credit Ratio	Credit Yield
Wetland Enhancement	8.62	375,395	1.5 :1	5.75
Wetland Creation	6.79	295,945	1.0 :1	6.79
Wetland Preservation	25.68	1,118,615	10 :1	2.57
Wetland Buffer Preservation	1.13	49,398	20 :1	0.06
Wetland And Stream Buffer Enhancement	4.17	181,818	15 :1	0.28
Stream Buffer	3.07	133,688	0 :1	0.00
Totals	49.47	2,154,858	-	15.44

Stream Restoration Potential	
Reach	LF
A	455
B	402
C	741
D	1311
E	1571
Totals	4,480

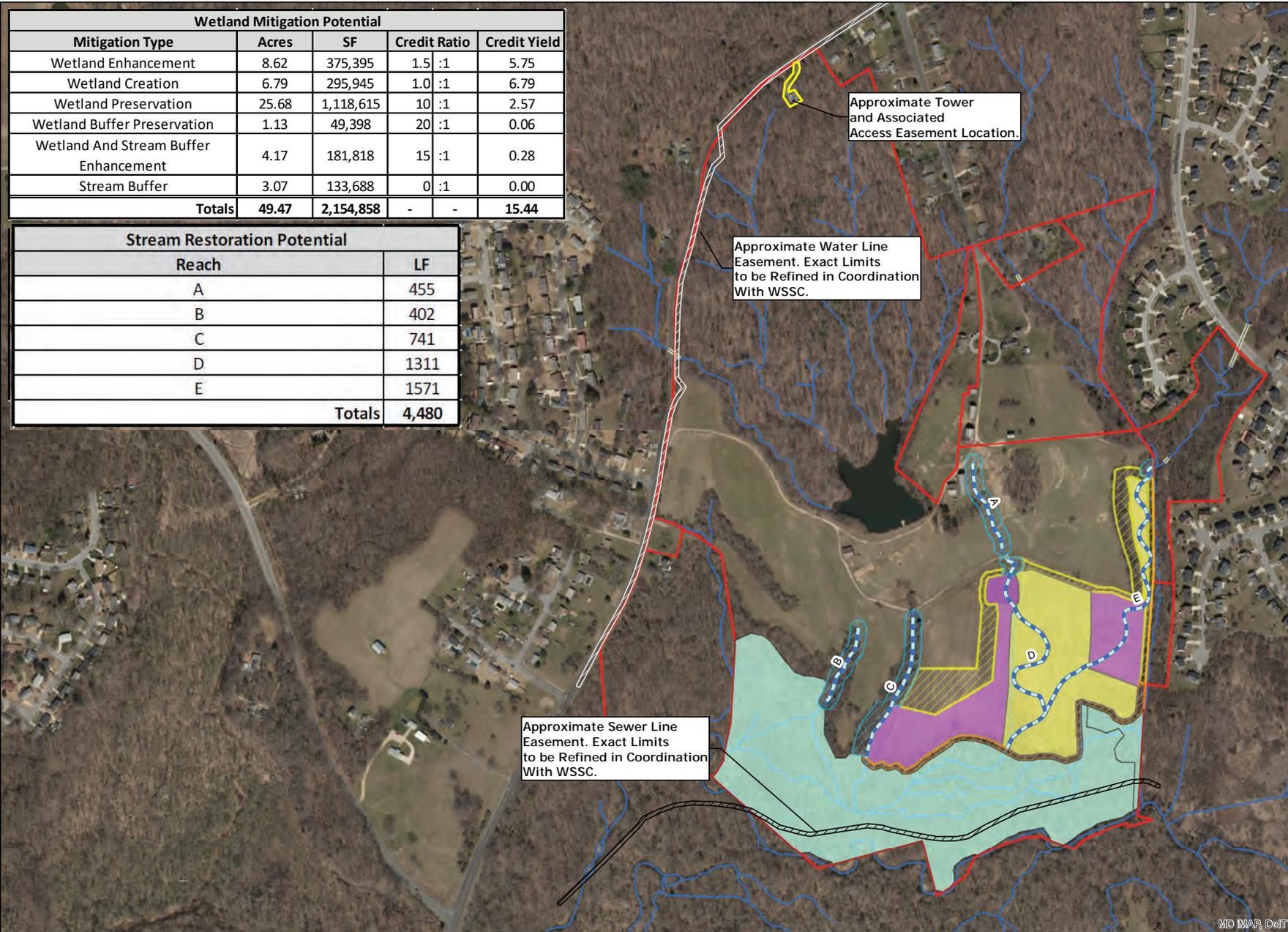


Figure 5

Parker Lane Mitigation Site Easements & Encumbrances

Legend:

- Approximate Sewer Easement Location
- Approximate Water Easement Location
- Potential Stream Restoration
- Stream and Wetland Buffer Enhancement
- Wetland Buffer Preservation
- Wetland Creation
- Wetland Enhancement
- Wetland Preservation
- Stream Buffer
- Parcels of Interest
- Stream
- Drainage Connector



4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500

Date Figure Created: 11/24/2020

EXHIBIT 6 – Project Schedule

11/20/2020

MagLev - Full Delivery, Stream & Wetland Mitigation Program
 Parker 5 Stream & Wetland Mitigation Site Schedule

Color Key	
	Reg. Agency
	GV
	BWRR

Item	Project Milestone	Duration	Start	Complete
Phase I : Phase I/Phase II Mitigation Packages				
1	Prepare & Submit Phase I Mitigation Package to BWRR	9	18-Nov-20	27-Nov-20
2	BWRR Review, comment generation	3	27-Nov-20	30-Nov-20
3	Prepare & Submit Final Phase I Mitigation Package to BWRR	3	30-Nov-20	3-Dec-20
4	Schedule/Attend Regulatory Virtual or Field Meeting	75	18-Nov-20	1-Feb-21
5	Receive Agency Comments on Phase I Mitigation Plan ¹	60	3-Dec-20	1-Feb-21
6	Topographic & Boundary Survey ²	90	1-Feb-21	2-May-21
7	Baseline Data Collection ²	90	1-Feb-21	2-May-21
8	30% Design, Engineering, Modeling ²	90	1-Feb-21	2-May-21
9	65% Design, USACE Final Mitigation Plan Development / MDE	90	2-May-21	31-Jul-21
10	USACE /MDE/SHA Review & Comment	45	31-Jul-21	14-Sep-21
11	Revise Plans (90%) in Response to Comments & Resubmit	15	14-Sep-21	29-Sep-21
12	Phase II Mitigation Approval	120	29-Sep-21	27-Jan-22
13	Finalize & Secure Local Permits	120	14-Sep-21	12-Jan-22
14	Post Required Regulatory Financial Assurances	30	12-Jan-22	11-Feb-22
15	Mob, Construction Stakeout and Site Controls	21	11-Feb-22	4-Mar-22
16	Grading/Earthwork/Instream Structure Placement ³	180	4-Mar-22	31-Aug-22
17	Site Stabilization & De-mob	14	31-Aug-22	14-Sep-22
18	Native Plant Installation ⁴	90	14-Sep-22	13-Dec-22
19	As Built Survey & Metes/Bounds & Construction Completion	60	13-Dec-22	11-Feb-23
20	Record Final Conservation Easements	60	11-Feb-23	12-Apr-23
21	Year 1 Stream & Wetland Monitoring	365	1-Jan-23	31-Dec-23
22	Year 2 Stream & Wetland Monitoring & Reporting	365	1-Jan-24	31-Dec-24
23	Year 3 Stream & Wetland Monitoring & Reporting	365	1-Jan-25	1-Jan-24
24	Year 4 Stream & Wetland Monitoring	365	1-Jan-26	1-Jan-27
25	Year 5 Stream & Wetland Monitoring & Reporting	365	1-Jan-27	2-Jan-24
26	Year 6 Stream & Wetland Monitoring	365	1-Jan-28	31-Dec-28
27	Year 7 Stream & Wetland Monitoring & Reporting	365	1-Jan-29	3-Jan-24
28	Year 8 Stream & Wetland Monitoring	365	1-Jan-30	1-Jan-31
29	Year 9 Stream & Wetland Monitoring	365	1-Jan-31	4-Jan-24
30	Year 10 Stream & Wetland Monitoring & Reporting	365	1-Jan-32	31-Dec-32
31	Regulatory Approval of Mitigation Site Success	60	31-Dec-32	1-Mar-33

¹ Agency comments on the Phase I Mitigation Package will be incorporated into the Phase II Mitigation Package.

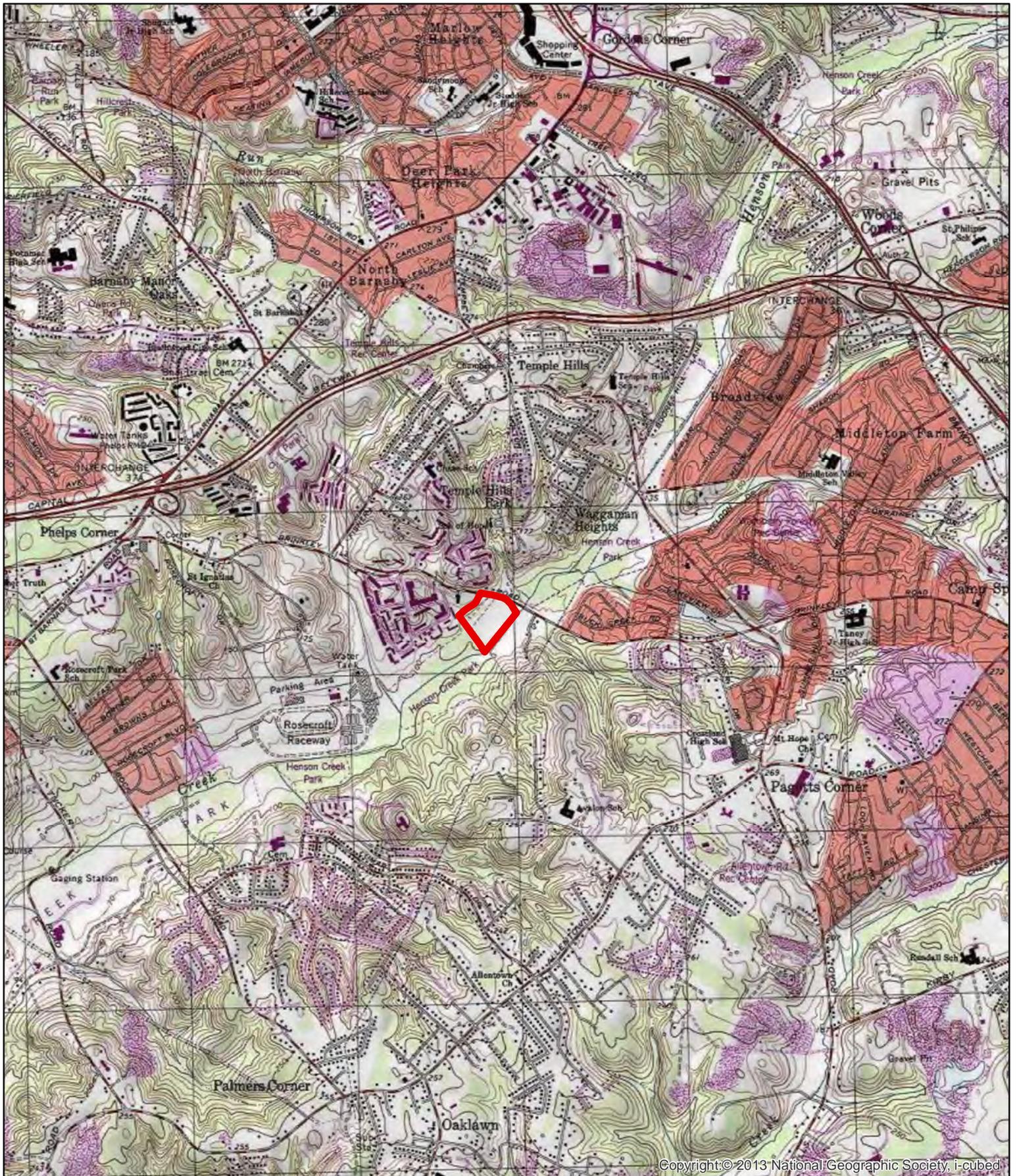
² Task work that may run in parallel to preparation of the Phase I Mitigation Package.

³ Constuction schedule is estimated and is subject to prevailing field conditions and time of year restrictions (for in-stream work).

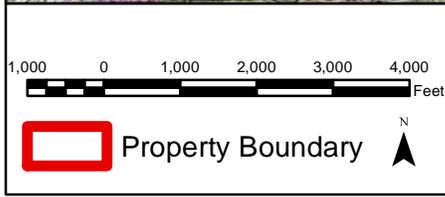
⁴ Planting will commence during the next seasonal planting window following construction.

ATTACHMENT 2
BRINKLEY ROAD MITIGATION PROJECT SUPPORTING DOCUMENTATION

EXHIBIT 1 – 7.5 Minute Topographic Map



Copyright © 2013 National Geographic Society, i-cubed



USGS Map

Brinkley Road
Mitigation Site
Anacostia Quadrangle

GreenVest
VISION · PERFORMANCE · RESULTS

4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500 www.greenvestus.com

EXHIBIT 2 – Conceptual Mitigation Plan



Zilla Driving Range Potential Stream & Wetland Restoration Concept Plan

3601 Brinkley Road
Temple Hills, MD 20748

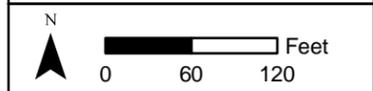
- Proposed Stream Restoration (2,019 LF)
- Subject Parcel Boundary (16.46 AC)
- Proposed RCP Pipe
- Proposed Stormwater Pond
- Proposed Access Drive
- Stream and Wetland Buffer Preservation
- Wetland Creation
- Wetland Enhancement
- Wetland Preservation
- Stream Buffer
- Stream and Wetland Buffer Enhancement
- Stream Width

Henson Creek Trail
(Under construction in image)

Imbricated Wall to Protect Trail

Stream Restoration Potential	
	LF
Restoration Henson Creek	1,109
Stream Creation	910
Totals	2,019

Wetland Mitigation Potential					
Mitigation Type	Acres	SF	Credit Ratio		Credit Yield
Wetland Enhancement	6.46	281,209	1.5	:1	4.30
Wetland Creation	1.36	59,243	1.0	:1	1.36
Wetland Preservation	1.27	55,468	10	:1	0.13
Stream and Wetland Buffer Enhancement	1.81	78,633	15	:1	0.12
Stream and Wetland Buffer Preservation	1.37	59,862	20	:1	0.07
Stream Buffer	0.87	37,682	0	:1	0.00
Totals	13.13	572,095	-	-	5.98



4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500

MD IMAP, DoIT

Date Figure Created: 10/9/2020

EXHIBIT 3 – Select Site Photographs

VIEW #1

View of the driving range field from the north. The main stem of Henson Creek is located beyond the tree line on the left hand side of the frame (to the west).



VIEW #2

View of the forested wetlands located adjacent to the west side of the driving range field, from the southeast. Brinkley Road is visible in the background.



PHOTOGRAPHS & DESCRIPTIONS
Brinkley Road Mitigation Site

MUNICIPALITY: Temple Hills
COUNTY: Prince George's

VIEW #3

View of ditch/channel conveying overland flow from the driving range to the forested wetlands located to the west of the driving range field, from the southwest. Driving range tee boxes are visible in the background.



VIEW #4

View of the main stem of Henson Creek on the east side of the site, facing south (downstream). The M-NCPPC owned Henson Creek Trail is visible on the left side of the frame. Stream bank erosion is severe in this area and threatening to undermine the trail.



GreenVest
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PHOTOGRAPHS & DESCRIPTIONS
Brinkley Road Mitigation Site

MUNICIPALITY: Temple Hills
COUNTY: Prince George's

VIEW #5

View of the main stem of Henson Creek on the east side of the site, facing south (downstream). Note the sanitary sewer manholes visible in the stream channel downstream of the wood debris.



VIEW #6

View of the main stem of Henson Creek on the east side of the site, facing north (upstream). Note the sanitary sewer manholes visible in the stream channel.



PHOTOGRAPHS & DESCRIPTIONS
Brinkley Road Mitigation Site

MUNICIPALITY: Temple Hills
COUNTY: Prince George's

EXHIBIT 4 – Regulatory Correspondence



MARYLAND DEPARTMENT OF NATURAL RESOURCES
Brinkley Road Mitigation Project



November 25, 2020

Ms. Lori Byrne
DNR Wildlife & Heritage Service – Environmental Review
580 Taylor Ave.
Tawes Office Bldg E-1
Annapolis, MD 21401

Dear Ms. Byrne:

GreenVest, LLC is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the former Golfzilla Driving Range located at 3601 Brinkley Road in Temple Hills, Maryland (See attached USGS Map). The former driving range property is proposed for redevelopment for stream and wetland restoration and stormwater management. The proposed projects are located on a single parcel and are referred to as the Brinkley Road Mitigation Project and the Henson Creek Stormwater Management Project. These projects are collectively referred to herein as “Project”. The Project area is in Prince George’s County and can be located on the USGS 7.5-minute Topographic Map – Anacostia quadrangle. The property is identified in land records as Map 97, Grid B4, and Parcel 139.

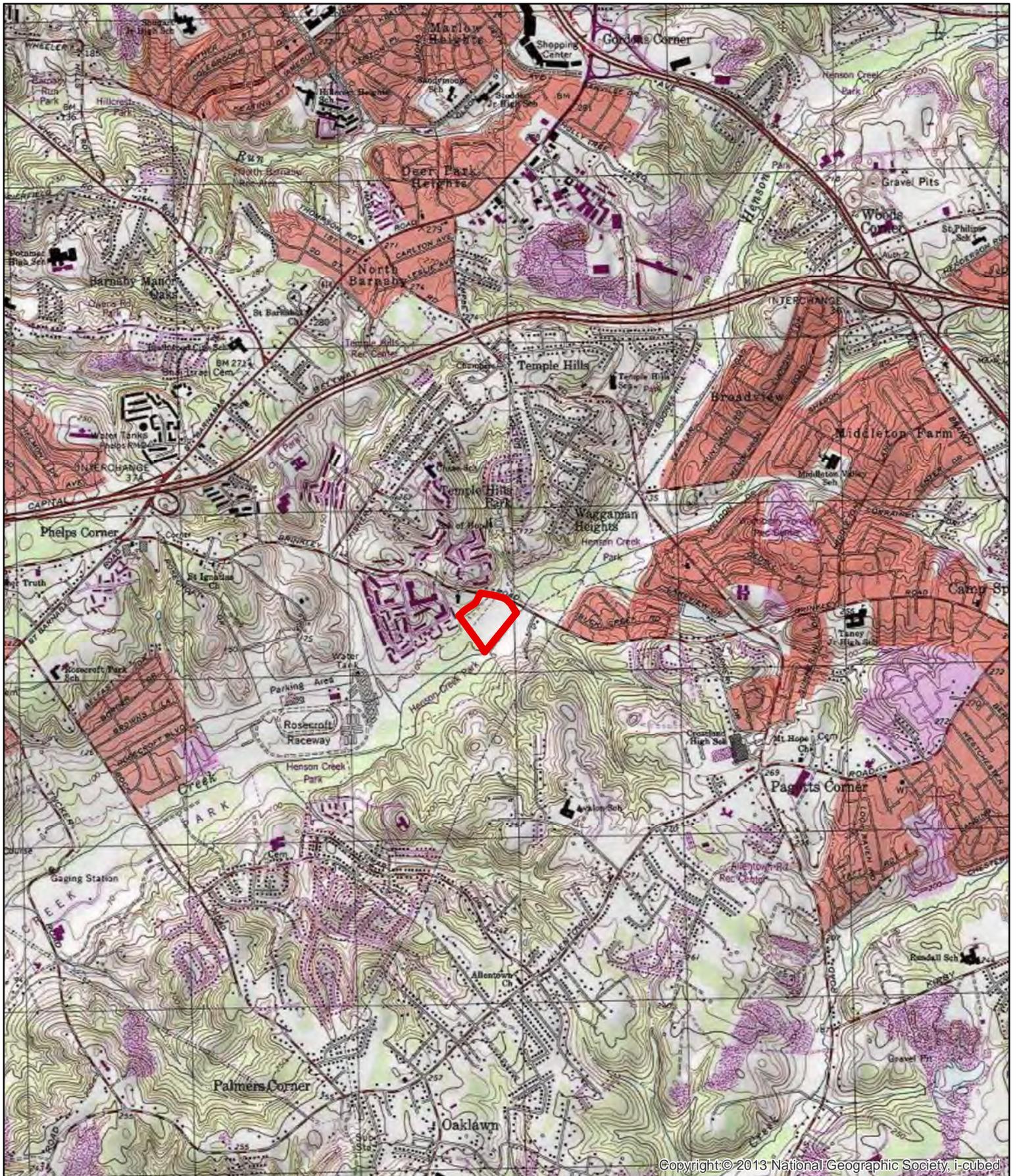
The Project is intended to provide stream and wetland mitigation and stormwater management. The Project includes restoration of Henson Creek, the restoration/creation of unnamed tributaries to Henson Creek, wetland creation, wetland enhancement, wetland preservation, impervious surface removal and construction of a stormwater management pond (See attached Concept Plan). The primary objectives of the Project are to restore stream and wetland functions through increased floodplain connectivity, stream stabilization, restoring wetland hydrology, establishment of native wetland plants, improving stormwater management, and creating opportunities for ecological uplift and nutrient processing.

We look forward to your review of this Project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

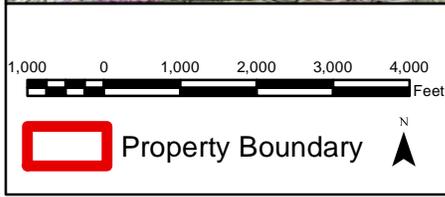
Sincerely,

A handwritten signature in black ink, appearing to read "Zachary Tyszkiewicz".

Zachary Tyszkiewicz



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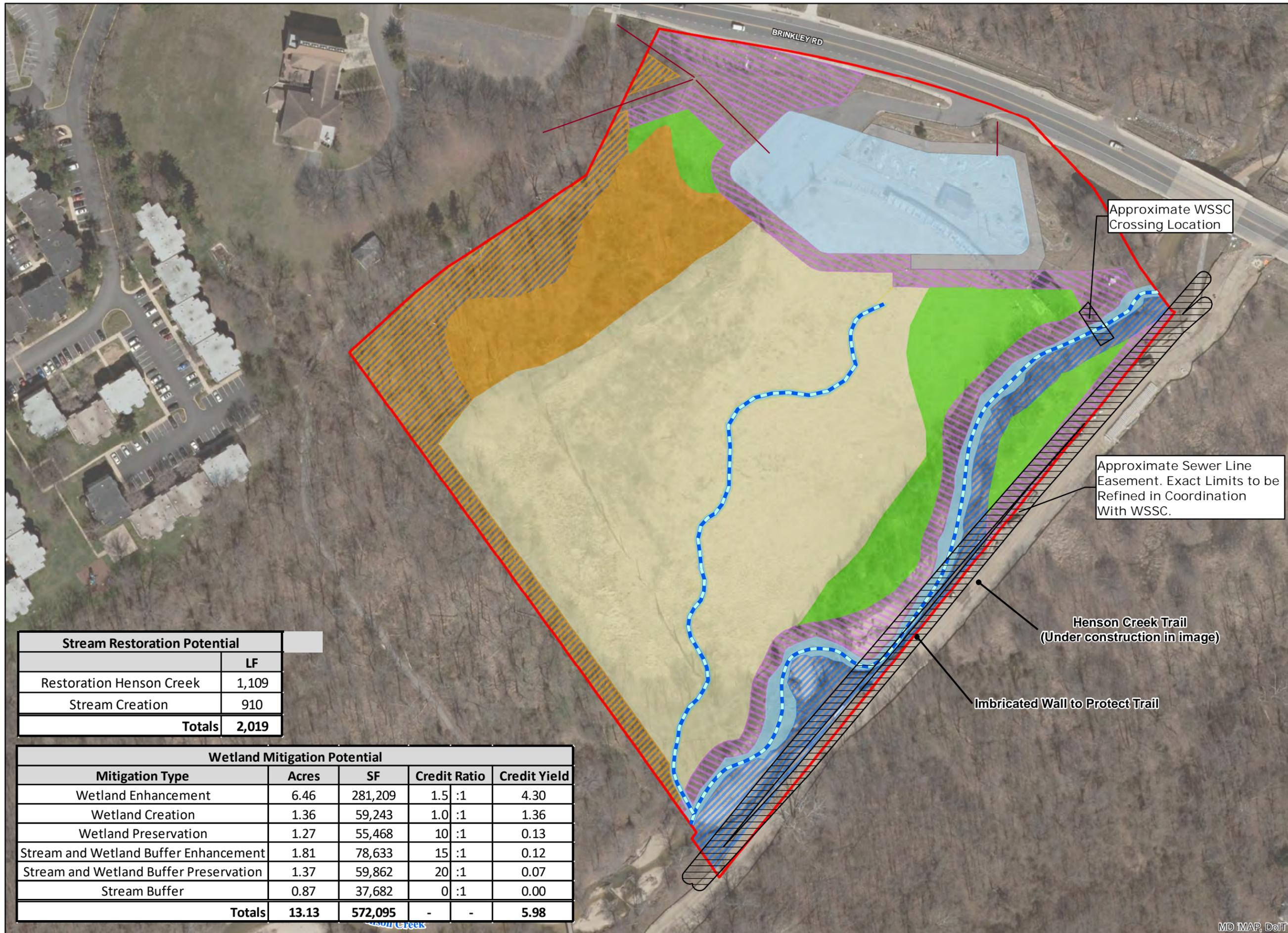


USGS Map

Brinkley Road
Mitigation Site
Anacostia Quadrangle

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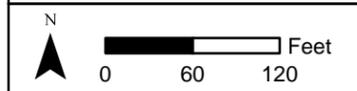
**Figure 5
Brinkley Road
Mitigation Site
Easements &
Encumbrances**

3601 Brinkley Road
Temple Hills, MD 20748

- Approximate Utility Easement Location
- Proposed Stream Restoration (2,019 LF)
- Subject Parcel Boundary (16.46 AC)
- Proposed RCP Pipe
- Proposed Stormwater Pond
- Proposed Access Drive
- Stream and Wetland Buffer Preservation
- Wetland Creation
- Wetland Enhancement
- Wetland Preservation
- Stream Buffer
- Stream and Wetland Buffer Enhancement
- Stream Width

Stream Restoration Potential	
	LF
Restoration Henson Creek	1,109
Stream Creation	910
Totals	2,019

Wetland Mitigation Potential					
Mitigation Type	Acres	SF	Credit Ratio		Credit Yield
Wetland Enhancement	6.46	281,209	1.5	:1	4.30
Wetland Creation	1.36	59,243	1.0	:1	1.36
Wetland Preservation	1.27	55,468	10	:1	0.13
Stream and Wetland Buffer Enhancement	1.81	78,633	15	:1	0.12
Stream and Wetland Buffer Preservation	1.37	59,862	20	:1	0.07
Stream Buffer	0.87	37,682	0	:1	0.00
Totals	13.13	572,095	-	-	5.98



4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500

**U.S. FISH AND WILDLIFE SERVICE
Brinkley Road Mitigation Project**



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

November 19, 2020

Consultation Code: 05E2CB00-2021-SLI-0235

Event Code: 05E2CB00-2021-E-00568

Project Name: Zilla

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2021-SLI-0235

Event Code: 05E2CB00-2021-E-00568

Project Name: Zilla

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: A stream and wetland restoration project including the installation of a stormwater pond.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.80117264940587N76.94781120532204W>



Counties: Prince George's, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1A](#)

RIVERINE

- [R5UBH](#)
 - [R2UBH](#)
-

**MARYLAND HISTORIC TRUST
Brinkley Road Mitigation Project**



November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

Dear Ms. Cole:

GreenVest, LLC is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the former Golfzilla Driving Range located at 3601 Brinkley Road in Temple Hills, Maryland (See attached USGS Map). The former driving range property is proposed for redevelopment for stream and wetland restoration and stormwater management. The proposed projects are located on a single parcel and are referred to as the Brinkley Road Mitigation Project and the Henson Creek Stormwater Management Project. These projects are collectively referred to herein as “Project”. The Project area is in Prince George’s County and can be located on the USGS 7.5-minute Topographic Map – Anacostia quadrangle. The property is identified in land records as Map 97, Grid B4, and Parcel 139.

The Project is intended to provide stream and wetland mitigation and stormwater management. The Project includes restoration of Henson Creek, the restoration/creation of unnamed tributaries to Henson Creek, wetland creation, wetland enhancement, wetland preservation, impervious surface removal and construction of a stormwater management pond (See attached Concept Plan). The primary objectives of the Project are to restore stream and wetland functions through increased floodplain connectivity, stream stabilization, restoring wetland hydrology, establishment of native wetland plants, improving stormwater management, and creating opportunities for ecological uplift and nutrient processing.

The Project is located within the privately-owned property with forest, recreation, and wetland land use areas. Based on historical aerial dating back to 1963, the land uses throughout the project area have not changed over the past 57 years, although structures related to the driving range appear to have been modified or removed. As part of the Project, impervious surface removal is proposed in order to install a stormwater management pond and create new wetland areas.

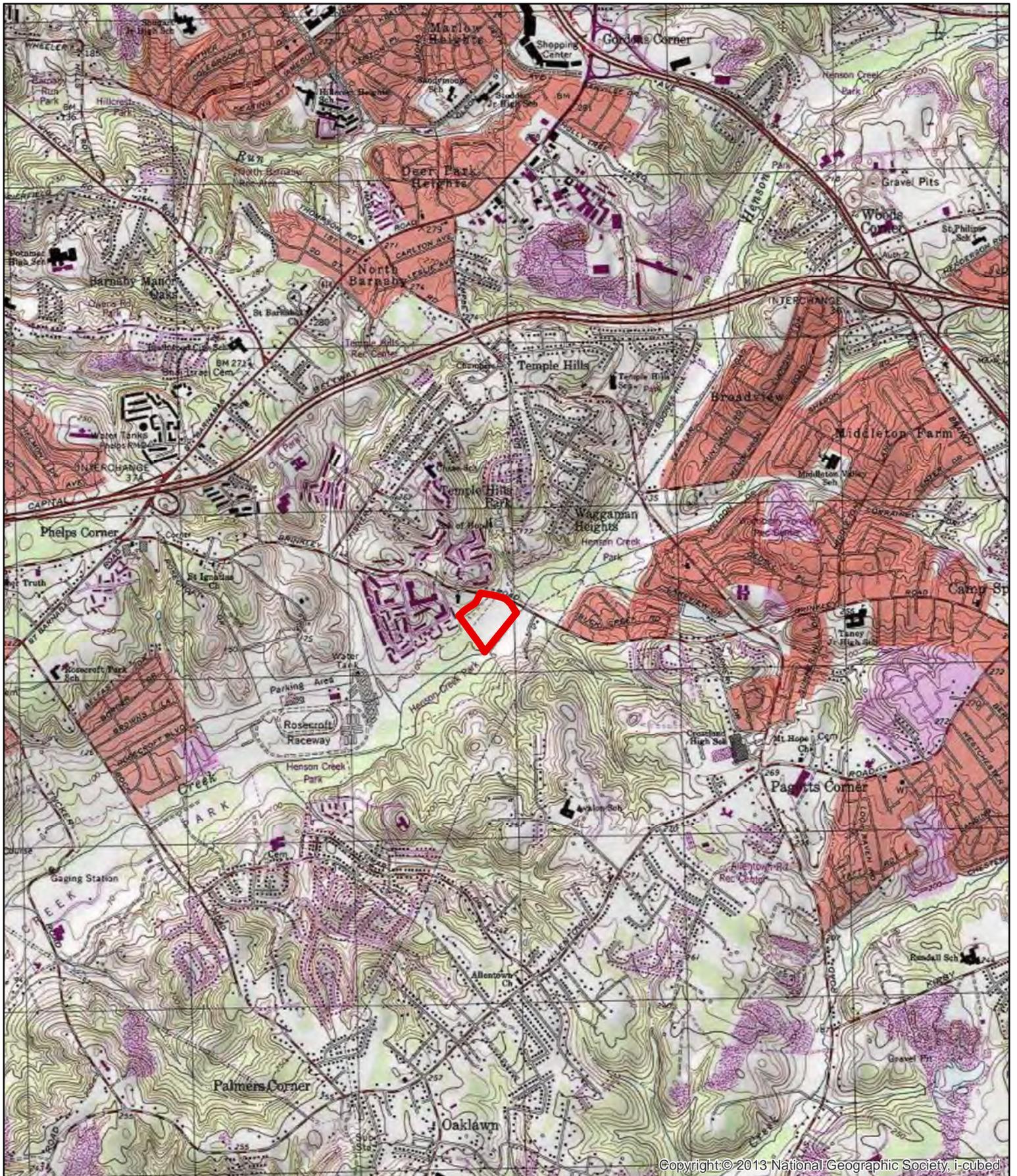
GreenVest searched Maryland's Environmental Resources and Land Information Network (MERLIN) data layers for Maryland Inventory of Historic Properties, National Register of Historic Places, and MHT Preservation Easements. None of these features were identified on the Project property.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

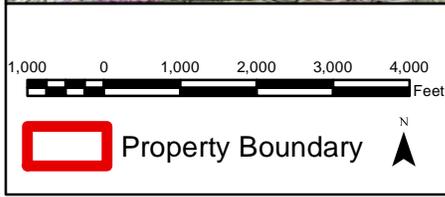
Sincerely,

A handwritten signature in black ink, appearing to read "Zachary Tyszkiewicz", is written over the typed name.

Zachary Tyszkiewicz



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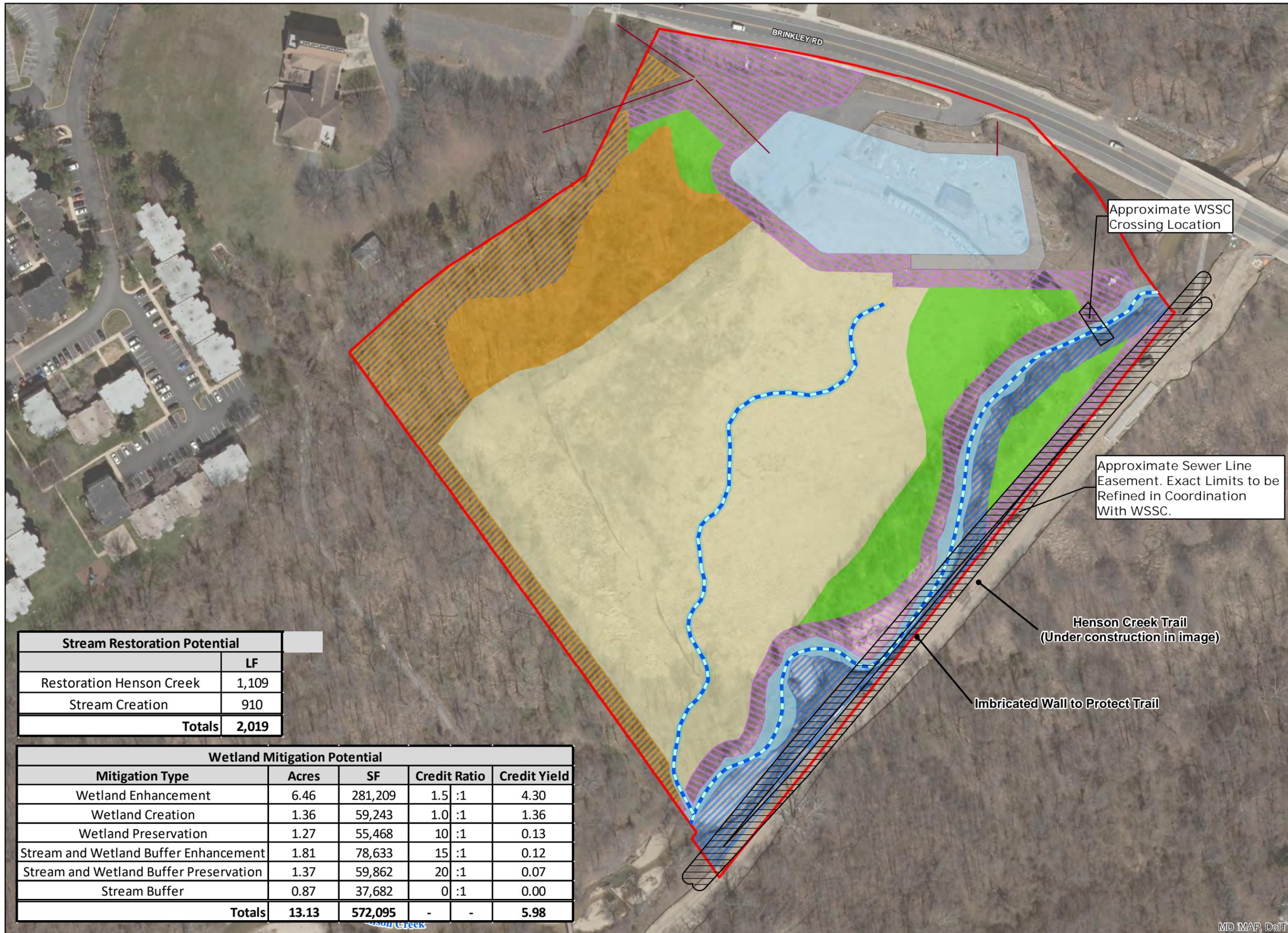


USGS Map

Brinkley Road
Mitigation Site
Anacostia Quadrangle

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**Figure 5
Brinkley Road
Mitigation Site
Easements &
Encumbrances**

3601 Brinkley Road
Temple Hills, MD 20748

- Approximate Utility Easement Location
- Proposed Stream Restoration (2,019 LF)
- Subject Parcel Boundary (16.46 AC)
- Proposed RCP Pipe
- Proposed Stormwater Pond
- Proposed Access Drive
- Stream and Wetland Buffer Preservation
- Wetland Creation
- Wetland Enhancement
- Wetland Preservation
- Stream Buffer
- Stream and Wetland Buffer Enhancement
- Stream Width

Stream Restoration Potential	
	LF
Restoration Henson Creek	1,109
Stream Creation	910
Totals	2,019

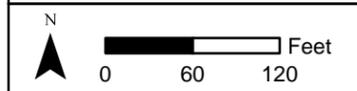
Wetland Mitigation Potential					
Mitigation Type	Acres	SF	Credit Ratio		Credit Yield
Wetland Enhancement	6.46	281,209	1.5	:1	4.30
Wetland Creation	1.36	59,243	1.0	:1	1.36
Wetland Preservation	1.27	55,468	10	:1	0.13
Stream and Wetland Buffer Enhancement	1.81	78,633	15	:1	0.12
Stream and Wetland Buffer Preservation	1.37	59,862	20	:1	0.07
Stream Buffer	0.87	37,682	0	:1	0.00
Totals	13.13	572,095	-	-	5.98

Approximate WSSC Crossing Location

Approximate Sewer Line Easement. Exact Limits to be Refined in Coordination With WSSC.

Henson Creek Trail (Under construction in image)

Imbricated Wall to Protect Trail



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Bowie, MD 20716
410-987-5500



PROJECT REVIEW FORM

Request for Comments from the Maryland Historical Trust/
MDSHPO on State and Federal Undertakings

MHT USE ONLY	
Date Received:	Log Number:

Project Name	Brinkley Road Mitigation Site	County	Prince George's
--------------	-------------------------------	--------	-----------------

Primary Contact:

Contact Name	Patrick Phillips	Company/Agency	GreenVest, LLC
Mailing Address	4201 Northview Drive, Suite 202		
City	Bowie	State	Maryland
		Zip	20716
Email	patrick@greenvestus.com	Phone Number	+1 (410) 987-5500
		Ext.	104

Project Location:

Address	3601 Brinkley Road	City/Vicinity	Temple Hills
Coordinates (if known): Latitude	38.802135	Longitude	-76.946807
		Waterway	Henson Creek

Project Description:

List federal and state sources of funding, permits, or other assistance (e.g. Bond Bill Loan of 2013, Chapter #; HUD/CDBG; MDE/COE permit; etc.).	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)

This project includes (check all applicable):

New Construction
 Demolition
 Remodeling/Rehabilitation
 State or Federal Rehabilitation Tax Credits
 Excavation/Ground Disturbance
 Shoreline/Waterways/Wetlands

Other\Additional Description: Stream and Wetland Restoration

Known Historic Properties:

This project involves properties (check all applicable):

Listed in the National Register
 Subject to an easement held by MHT
 Included in the Maryland Inventory of Historic Properties
 Designated historic by a local government
 Previously subject to archeological investigations

Property\District\Report Name

Attachments:

All attachments are required. Incomplete submittals may result in delays or be returned without comment.

Aerial photograph or USGS Quad Map section with location and boundaries of project clearly marked.
 Project Description, Scope of Work, Site Plan, and/or Construction Drawings.
 Photographs (print or digital) showing the project site including images of all buildings and structures.
 Description of past and present land uses in project area (wooded, mined, developed, agricultural uses, etc).

MHT Determination:

There are **NO HISTORIC PROPERTIES** in the area of potential effect
 The project will have **NO ADVERSE EFFECT WITH CONDITIONS**
 The project will have **NO EFFECT** on historic properties
 The project will have **ADVERSE EFFECTS** on historic properties
 The project will have **NO ADVERSE EFFECT** on historic properties
 MHT REQUESTS ADDITIONAL INFORMATION

MHT Reviewer: _____ Date: _____

Submit printed copy of form and all attachments by mail to: Beth Cole, MHT, 100 Community Place, Crownsville, MD 21032

EXHIBIT 5 – Site Easement Map

EXHIBIT 6 – Project Schedule

11/25/2020

**MagLev - Full Delivery, Stream & Wetland Mitigation Program
Brinkley Road Stream & Wetland Mitigation Site Schedule**

Color Key	
	Reg. Agency
	GV
	BWRR

Item	Project Milestone	Duration	Start	Complete
Phase I : Phase I/Phase II Mitigation Packages				
3	Prepare & Submit Phase I Mitigation Package to BWRR	10	18-Nov-20	28-Nov-20
4	BWRR Review, comment generation	3	29-Nov-20	2-Dec-20
5	Prepare & Submit Final Phase I Mitigation Package to BWRR	1	2-Dec-20	3-Dec-20
6	Schedule/Attend Regulatory Virtual or Field Meeting	75	18-Nov-20	1-Feb-21
7	Receive Agency Comments on Phase I Mitigation Plan ¹	60	3-Dec-20	1-Feb-21
8	Topographic & Boundary Survey ²	90	1-Feb-21	2-May-21
9	Baseline Data Collection ²	90	1-Feb-21	2-May-21
10	30% Design, Engineering, Modeling ²	90	1-Feb-21	2-May-21
11	65% Design,USACE Final Mitigation Plan Development / MDE Phase	90	2-May-21	31-Jul-21
12	USACE /MDE/SHA Review & Comment	45	31-Jul-21	14-Sep-21
13	Revise Plans (90%) in Response to Comments & Resubmit	15	14-Sep-21	29-Sep-21
14	Phase II Mitigation Approval	120	29-Sep-21	27-Jan-22
15	Finalize & Secure Local Permits	120	14-Sep-21	12-Jan-22
16	Post Required Regulatory Financial Assurances	30	12-Jan-22	11-Feb-22
17	Mob, Construction Stakeout and Site Controls	21	11-Feb-22	4-Mar-22
18	Grading/Earthwork/Instream Structure Placement ³	180	4-Mar-22	31-Aug-22
19	Site Stabilization & De-mob	14	31-Aug-22	14-Sep-22
19	Native Plant Installation ⁴	90	14-Sep-22	13-Dec-22
20	As Built Survey & Metes/Bounds & Construction Completion Report	60	13-Dec-22	11-Feb-23
21	Record Final Conservation Easements	60	11-Feb-23	12-Apr-23
22	Year 1 Stream & Wetland Monitoring	365	1-Jan-23	31-Dec-23
23	Year 2 Stream & Wetland Monitoring & Reporting	365	1-Jan-24	31-Dec-24
24	Year 3 Stream & Wetland Monitoring & Reporting	365	1-Jan-25	1-Jan-24
25	Year 4 Stream & Wetland Monitoring	365	1-Jan-26	1-Jan-27
26	Year 5 Stream & Wetland Monitoring & Reporting	365	1-Jan-27	2-Jan-24
27	Year 6 Stream & Wetland Monitoring	365	1-Jan-28	31-Dec-28
28	Year 7 Stream & Wetland Monitoring & Reporting	365	1-Jan-29	3-Jan-24
29	Year 8 Stream & Wetland Monitoring	365	1-Jan-30	1-Jan-31
30	Year 9 Stream & Wetland Monitoring	365	1-Jan-31	4-Jan-24
31	Year 10 Stream & Wetland Monitoring & Reporting	365	1-Jan-32	31-Dec-32
32	Regulatory Approval of Mitigation Site Success	60	31-Dec-32	1-Mar-33

¹ Agency comments on the Phase I Mitigation Package will be incorporated into the Phase II Mitigation Package.

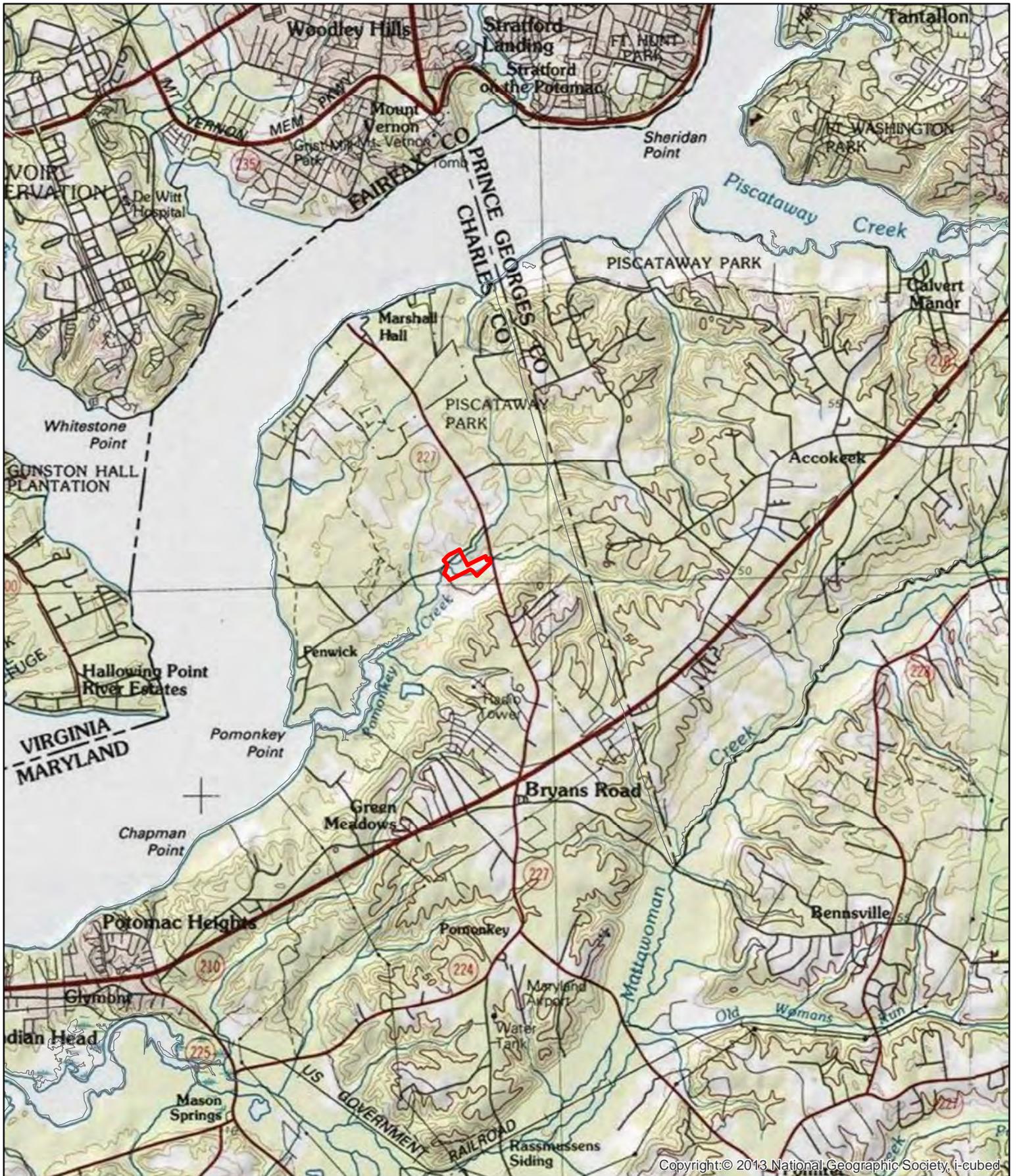
² Task work that may run in parallel to preparation of the Phase I Mitigation Package.

³ Constuction schedule is estimated and is subject to prevailing field conditions and time of year restrictions (for in-stream work).

⁴ Planting will commence during the next seasonal planting window following construction.

**ATTACHMENT 3
MILL SWAMP NORTH MITIGATION PROJECT
SUPPORTING DOCUMENTATION**

EXHIBIT 1 – 7.5 Minute Topographic Map



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 Project Area



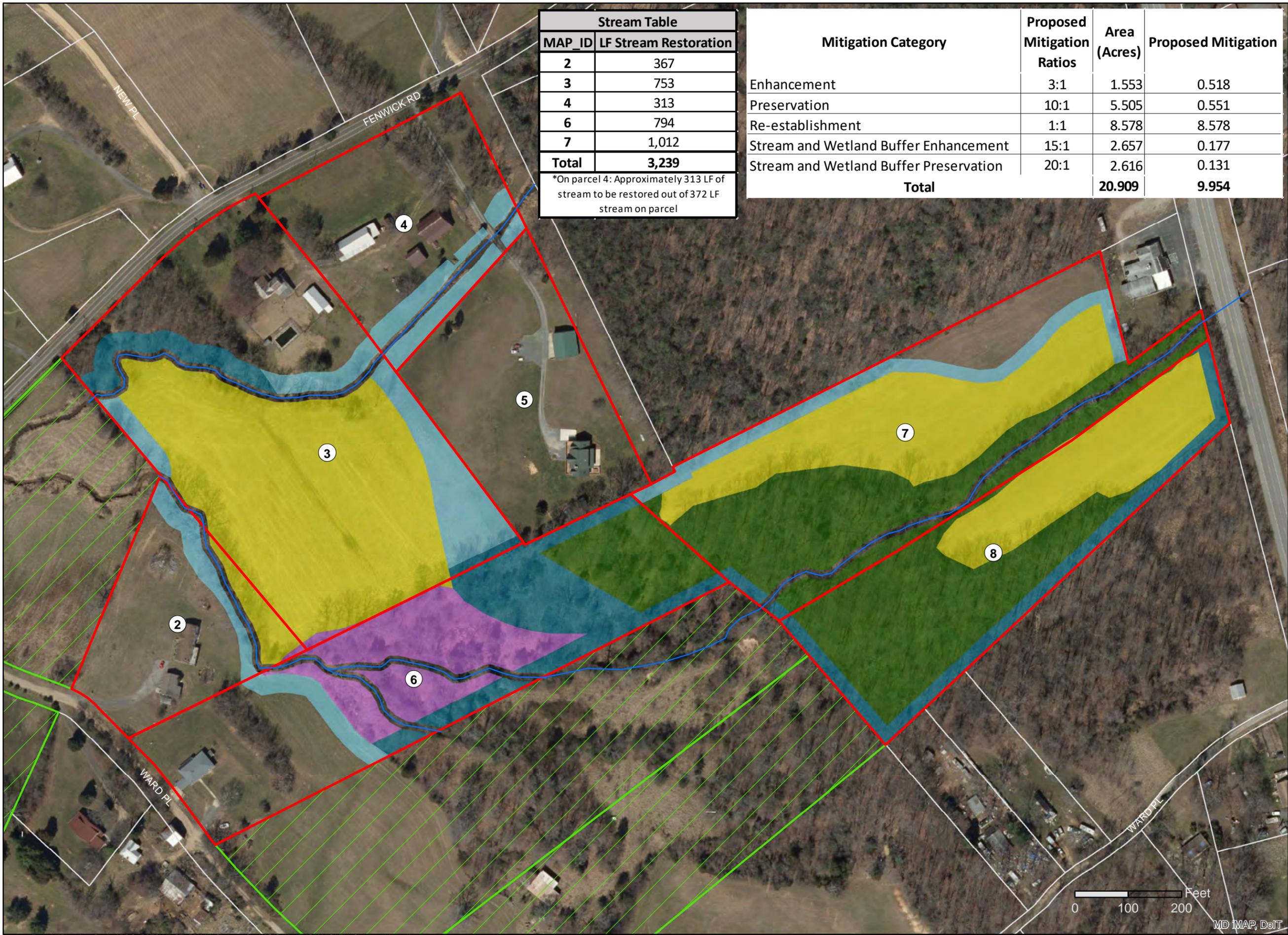
USGS Map

Mill Swamp North
Mount Vernon Quadrangle



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Bowie, MD 20716
410-987-5500 www.greenvestus.com

EXHIBIT 2 – Conceptual Mitigation Plan



Stream Table	
MAP_ID	LF Stream Restoration
2	367
3	753
4	313
6	794
7	1,012
Total	3,239

*On parcel 4: Approximately 313 LF of stream to be restored out of 372 LF stream on parcel

Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
Enhancement	3:1	1.553	0.518
Preservation	10:1	5.505	0.551
Re-establishment	1:1	8.578	8.578
Stream and Wetland Buffer Enhancement	15:1	2.657	0.177
Stream and Wetland Buffer Preservation	20:1	2.616	0.131
Total		20.909	9.954

Charles County

Mill Swamp North Mitigation Concept

Mill Swamp Creek
Middle Potomac-Anacostia-Occoquan

- Parcels Under Development for MDOT Mitigation
 - Subject Parcels
 - Adjacent Parcels
 - Streams (Traced from Aerial)
- #### Mitigation Category
- Enhancement
 - Preservation
 - Re-establishment
 - Stream and Wetland Buffer Enhancement
 - Stream and Wetland Buffer Preservation
 - Wetland Buffer Preservation

N

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Bowie, MD 20716
410.987.5500 (p)

EXHIBIT 3 – Select Site Photographs

VIEW # 1

View of the northern unnamed tributary to Mill Swamp Creek, facing east.



VIEW # 2

View of the southern unnamed tributary to Mill Swamp Creek, facing east.



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PHOTOGRAPHS & DESCRIPTIONS
Mill Swamp North Mitigation Project

MUNICIPALITY: Bryans Road
COUNTY: Charles

VIEW # 3

View of the northern unnamed tributary to Mill Swamp Creek, facing west.



VIEW # 4

View of the wetland enhancement area adjacent to Mill Swamp Creek looking east. The row of trees to the left surrounds Mill Swamp Creek.



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PHOTOGRAPHS & DESCRIPTIONS
Mill Swamp North Mitigation Project

MUNICIPALITY: Bryans Road
COUNTY: Charles

VIEW # 5

View of Mill Swamp Creek on parcel #3 from the southeast.



VIEW # 6

View of the wetland enhancement area on parcel #7 from the northeast. This parcel is located off of Marshall Hall Road.



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PHOTOGRAPHS & DESCRIPTIONS
Mill Swamp North Mitigation Project

MUNICIPALITY: Bryans Road
COUNTY: Charles

VIEW # 7

View of the unnamed tributary to Mill Swamp Creek after passing under Marshall Hall Road from the northeast.



VIEW # 8

View of the wetland enhancement area on parcel #8 located off of Marshall Hall Road from the northeast.



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PHOTOGRAPHS & DESCRIPTIONS
Mill Swamp North Mitigation Project

MUNICIPALITY: Bryans Road
COUNTY: Charles

EXHIBIT 4 – Regulatory Correspondence



MARYLAND DEPARTMENT OF NATURAL RESOURCES
Mill Swamp North Mitigation Project



November 25, 2020

Ms. Lori Byrne
DNR Wildlife & Heritage Service – Environmental Review
580 Taylor Ave.
Tawes Office Bldg E-1
Annapolis, MD 21401

Dear Ms. Byrne:

GreenVest, LLC. is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within the proposed Mill Swamp Expansion Stream and Wetland Restoration Project (Project) near Fenwick Road, Maryland (See attached USGS Map). The project area lies within Charles County and can be located on the Mount Vernon USGS Topographic quarter quadrangle map.

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration, and preservation of aquatic resources in the Mill Swamp Creek stream corridor. The Project area adjoins another mitigation site currently under development for the Maryland Department of Transportation (MDOT). Together these sites will create a large contiguous corridor of restored streams and wetlands. For reference, materials for the adjacent restoration project were submitted by Sarah Roberts of BioHabitats on June 12, 2020.

The project area includes seven (7) privately-owned parcels in Bryans Road that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

- William & Tina Tisdell, 6570 Ward Place, Map 5, Grid 4, Parcel 38 (Concept Plan ID #2)
- Jerimiah S. & Audrey E. Norris, 6555 Fenwick Road, Map 5, Grid 5, Parcel 360 (Concept Plan ID #3)
- Jerimiah S. & Audrey E. Norris, Tract 5-A S/S Fenwick Road W. Rt 227, Map 5, Grid 5, Parcel 497 (Concept Plan ID #4)
- Kyle J. & Casey A. Tippett, 6605 Fenwick Road, Map 5, Grid 5, Parcel 498 (Concept Plan ID #5)
- Liki Yin, 6590 Ward Place, Map 5, Grid 5, Parcel 356 (Concept Plan ID #6)
- David J. & Traci A. Norris, Old Simms Mill Road, Map 5, Grid 5, Parcel 174 (Concept Plan ID #7)
- David J. & Traci A. Norris, 2093 Marshall Hall Road, Map 5, Grid 5, Parcel 31 (Concept Plan ID # 8)

The proposed project includes restoration of Mill Swamp Creek, multiple unnamed tributaries to Mill Swamp Creek, wetland creation, wetland enhancement, and wetland preservation (See attached Concept Plan). The primary objectives of the Project are to increase overbank flows, preserve and restore wetland hydrology, and to reduce erosion and sedimentation.

Sincerely,

Zachary Tyszkiewicz

**U.S. FISH AND WILDLIFE SERVICE
Mill Swamp North Mitigation Project**



November 25, 2020

Endangered Species Project Review
US Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Ms. Cullen:

GreenVest, LLC. is requesting any information you may have regarding rare, threatened and/or endangered plant or animal species within the proposed Mill Swamp Expansion Stream and Wetland Restoration Project (Project) near Fenwick Road, Maryland (See attached USGS Map). The project area lies within Charles County and can be located on the Mount Vernon USGS Topographic quarter quadrangle map.

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration, and preservation of aquatic resources in the Mill Swamp Creek stream corridor. The Project area adjoins another mitigation site currently under development for the Maryland Department of Transportation (MDOT). Together these sites will create a large contiguous corridor of restored streams and wetlands. For reference, materials for the adjacent restoration project were submitted by Sarah Roberts of BioHabitats on June 12, 2020.

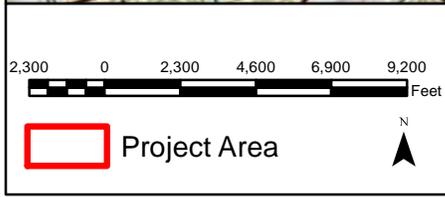
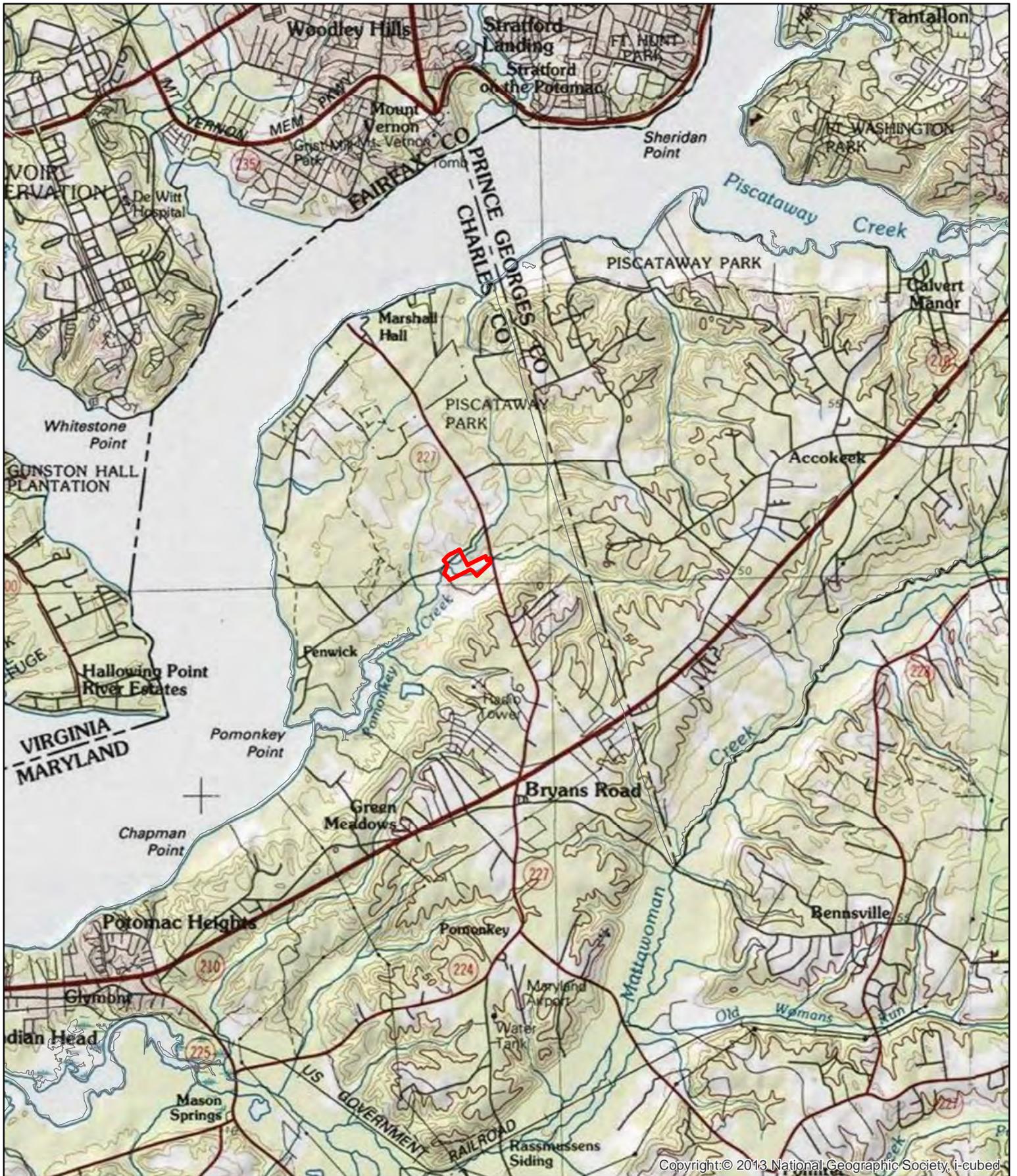
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Sincerely,

Zachary Tyszkiewicz

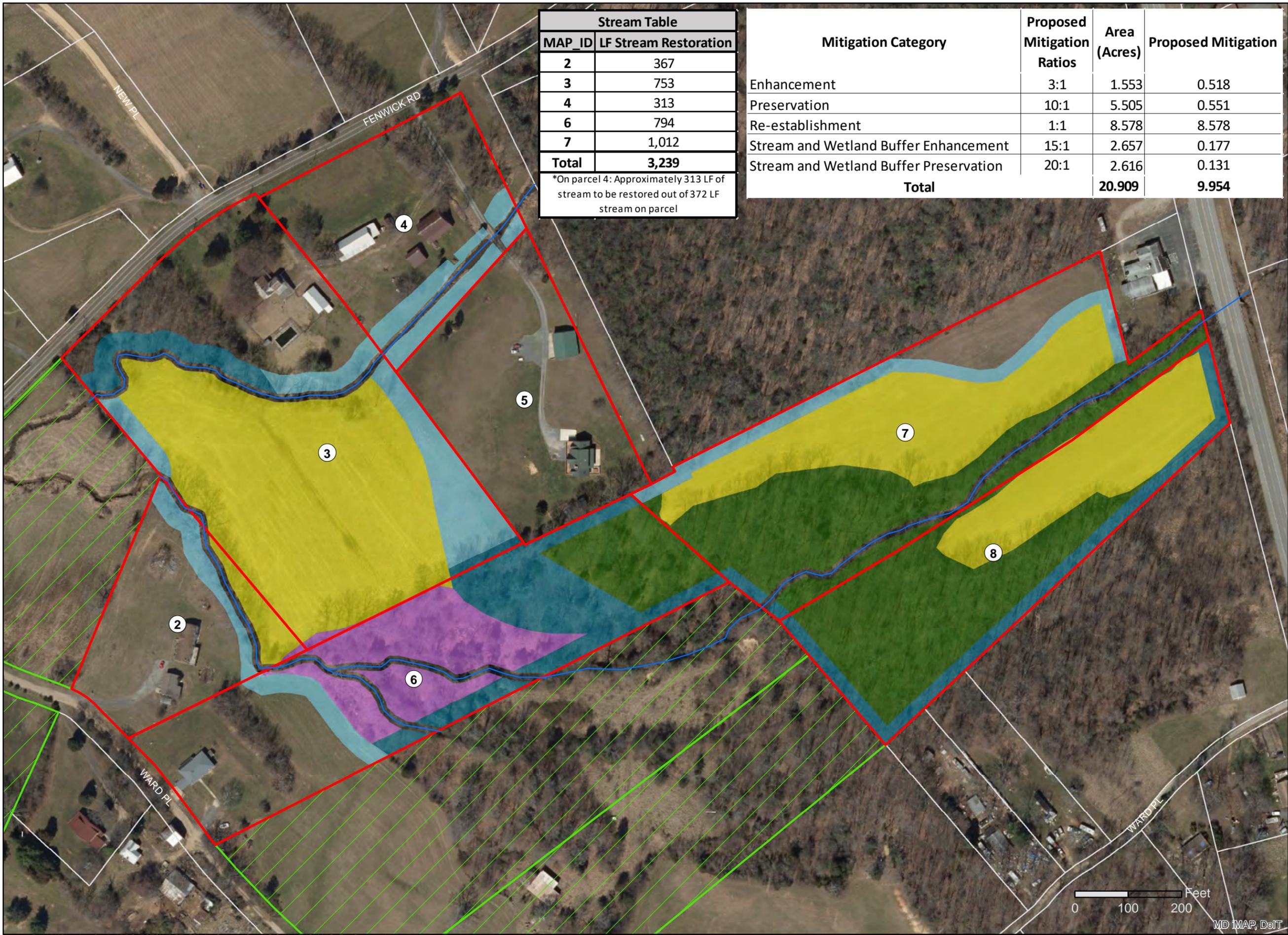


USGS Map

Mill Swamp Expansion
Mount Vernon Quadrangle

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410-987-5500 www.greenvestus.com



Stream Table	
MAP_ID	LF Stream Restoration
2	367
3	753
4	313
6	794
7	1,012
Total	3,239

*On parcel 4: Approximately 313 LF of stream to be restored out of 372 LF stream on parcel

Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
Enhancement	3:1	1.553	0.518
Preservation	10:1	5.505	0.551
Re-establishment	1:1	8.578	8.578
Stream and Wetland Buffer Enhancement	15:1	2.657	0.177
Stream and Wetland Buffer Preservation	20:1	2.616	0.131
Total		20.909	9.954

Charles County

MAGLEV Mitigation Concept

Mill Swamp Creek
Middle Potomac-Anacostia-Occoquan

- Parcels Under Development for MDOT Mitigation
 - Subject Parcels
 - Adjacent Parcels
 - Streams (Traced from Aerial)
- Mitigation Category**
- Enhancement
 - Preservation
 - Re-establishment
 - Stream and Wetland Buffer Enhancement
 - Stream and Wetland Buffer Preservation
 - Wetland Buffer Preservation

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Bowie, MD 20716
410.987.5500 (p)



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

November 25, 2020

Consultation Code: 05E2CB00-2021-SLI-0277

Event Code: 05E2CB00-2021-E-00677

Project Name: Mill Swamp Expanded

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2021-SLI-0277

Event Code: 05E2CB00-2021-E-00677

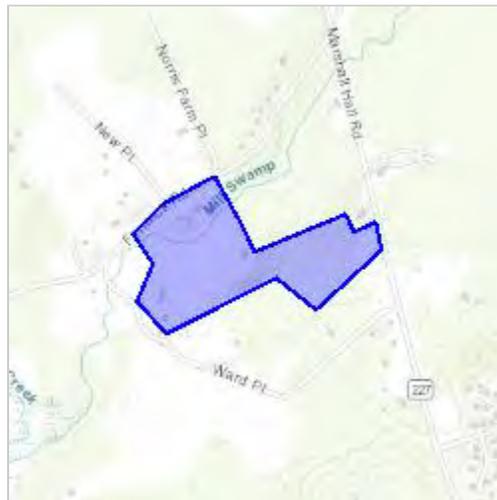
Project Name: Mill Swamp Expanded

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Stream and Wetland Restoration Project

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.65416853587786N77.08098189173384W>



Counties: Charles, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
- [PEM1F](#)

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1A](#)
- [PSS1C](#)

RIVERINE

- [R5UBH](#)
-

**MARYLAND HISTORIC TRUST
Mill Swamp North Mitigation Project**



November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

Dear Ms. Cole:

GreenVest, LLC. is requesting any information you may have regarding historic or cultural resources within the proposed Mill Swamp Expansion Stream and Wetland Restoration Project (Project) near Fenwick Road, Maryland (See attached USGS Map). The project area lies within Charles County and can be located on the Mount Vernon USGS Topographic quarter quadrangle map.

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration, and preservation of aquatic resources in the Mill Swamp Creek stream corridor. The Project area adjoins another mitigation site currently under development for the Maryland Department of Transportation (MDOT). Together these sites will create a large contiguous corridor of restored streams and wetlands. For reference, materials for the adjacent restoration project were submitted by Sarah Roberts of BioHabitats on June 12, 2020.

The proposed project includes restoration of Mill Swamp Creek, multiple unnamed tributaries to Mill Swamp Creek, wetland creation, wetland enhancement, and wetland preservation (See attached Concept Plan). The primary objectives of the Project are to increase overbank flows, preserve and restore wetland hydrology, and to reduce erosion and sedimentation.

The project area includes seven (7) privately-owned parcels in Bryans Road that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

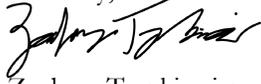
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- David J. & Traci A. Norris, 2093 Marshall Hall Road, Map 5, Grid 5, Parcel 31 (Concept Plan ID # 8)

The seven project parcels contain upland and wetland forest and open land in active agricultural production (row crops and hay). Based on historical aerial dating back to 1957, land use is generally unchanged with some formerly farmed areas becoming reforested and the construction of several residential dwellings. All buildings are offset from the stream and wetland mitigation areas and are not included in the project area. No buildings or structures will be constructed, demolished, or modified within the scope of this mitigation project.

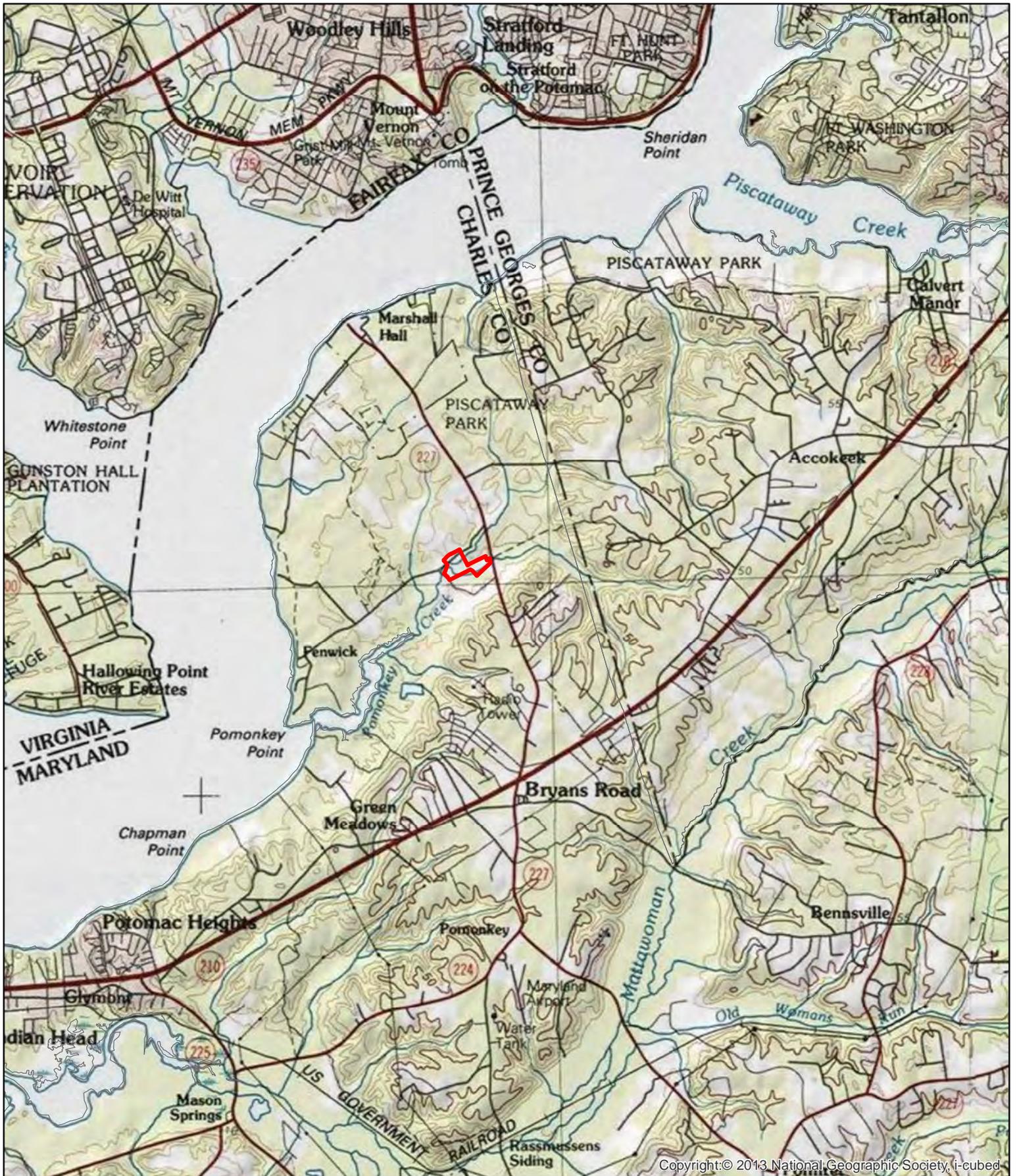
GreenVest searched Maryland's Environmental Resources and Land Information Network (MERLIN) data layers for Maryland Inventory of Historic Properties, National Register of Historic Places, and MHT Preservation Easements. None of these features were identified on the Project properties.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,



Zachary Tyszkiewicz



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 Project Area

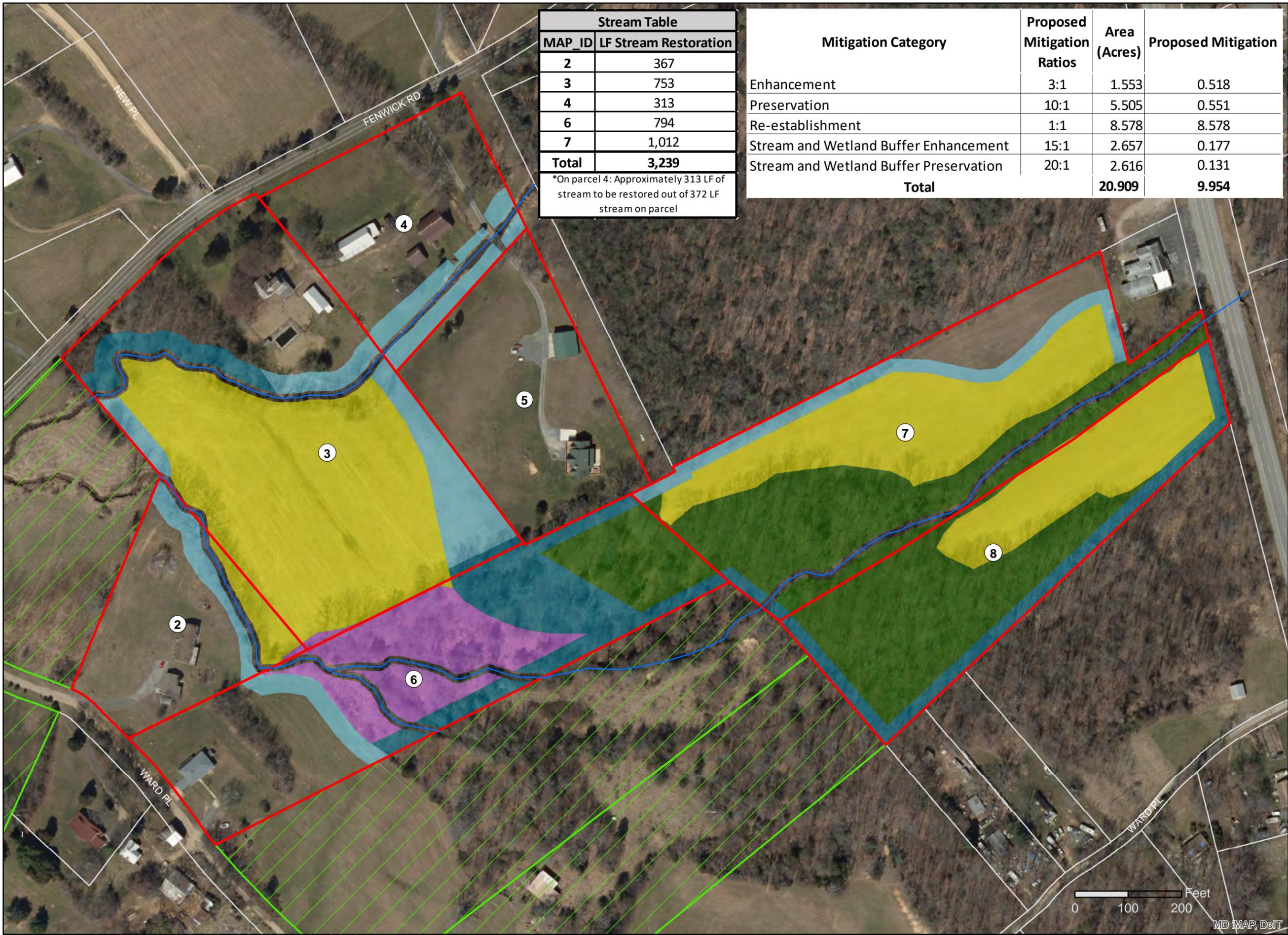


USGS Map

Mill Swamp Expansion
Mount Vernon Quadrangle



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Bowie, MD 20716
410-987-5500 www.greenvestus.com



Stream Table	
MAP_ID	LF Stream Restoration
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MAGLEV Mitigation Concept

Mill Swamp Creek
Middle Potomac-Anacostia-Occoquan

- Parcels Under Development for MDOT Mitigation
 - Subject Parcels
 - Adjacent Parcels
 - Streams (Traced from Aerial)
- Mitigation Category**
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 - Preservation
 - Re-establishment
 - Stream and Wetland Buffer Enhancement
 - Stream and Wetland Buffer Preservation
 - Wetland Buffer Preservation

N

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410.987.5500 (p)



PROJECT REVIEW FORM

Request for Comments from the Maryland Historical Trust/
MDSHPO on State and Federal Undertakings

MHT USE ONLY	
Date Received:	Log Number:

Project Name	Mill Swamp Expansion Stream and Wetland Mitigation Project	County	Charles
--------------	--	--------	---------

Primary Contact:

Contact Name	Patrick Phillips	Company/Agency	GreenVest, LLC
Mailing Address	4201 Northview Drive, Suite 202		
City	Bowie	State	Maryland
		Zip	20716
Email	patrick@greenvestus.com	Phone Number	+1 (410) 987-5500
		Ext.	104

Project Location:

Address	6555 Fenwick Road	City/Vicinity	Bryans Road
Coordinates (if known): Latitude	38.65366	Longitude	-77.083574
		Waterway	Mill Swamp Creek

Project Description:

List federal and state sources of funding, permits, or other assistance (e.g. Bond Bill Loan of 2013, Chapter #; HUD/CDBG; MDE/COE permit; etc.).	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)

This project includes (check all applicable):

New Construction
 Demolition
 Remodeling/Rehabilitation
 State or Federal Rehabilitation Tax Credits
 Excavation/Ground Disturbance
 Shoreline/Waterways/Wetlands

Other\Additional Description: Stream and Wetland Restoration

Known Historic Properties:

This project involves properties (check all applicable):

Listed in the National Register
 Subject to an easement held by MHT
 Included in the Maryland Inventory of Historic Properties
 Designated historic by a local government
 Previously subject to archeological investigations

Property\District\Report Name

Attachments:

All attachments are required. Incomplete submittals may result in delays or be returned without comment.

Aerial photograph or USGS Quad Map section with location and boundaries of project clearly marked.
 Project Description, Scope of Work, Site Plan, and/or Construction Drawings.
 Photographs (print or digital) showing the project site including images of all buildings and structures.
 Description of past and present land uses in project area (wooded, mined, developed, agricultural uses, etc).

MHT Determination:

There are **NO HISTORIC PROPERTIES** in the area of potential effect
 The project will have **NO ADVERSE EFFECT WITH CONDITIONS**
 The project will have **NO EFFECT** on historic properties
 The project will have **ADVERSE EFFECTS** on historic properties
 The project will have **NO ADVERSE EFFECT** on historic properties
 MHT REQUESTS ADDITIONAL INFORMATION

MHT Reviewer: _____ Date: _____

Submit printed copy of form and all attachments by mail to: Beth Cole, MHT, 100 Community Place, Crownsville, MD 21032

EXHIBIT 5 – Site Easement Map
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EXHIBIT 6 – Project Schedule

11/23/2020

MagLev - Full Delivery, Stream & Wetland Mitigation Program
 Mill Swamp North Stream & Wetland Mitigation Site Schedule

Color Key	
	Reg. Agency
	GV
	BWRR

Item	Project Milestone	Duration	Start	Complete
Phase I : Phase I/Phase II Mitigation Packages				
3	Prepare & Submit Phase I Mitigation Package to BWRR	10	18-Nov-20	28-Nov-20
4	BWRR Review, comment generation	3	29-Nov-20	2-Dec-20
5	Prepare & Submit Final Phase I Mitigation Package to BWRR	1	2-Dec-20	3-Dec-20
6	Schedule/Attend Regulatory Virtual or Field Meeting	75	18-Nov-20	1-Feb-21
7	Receive Agency Comments on Phase I Mitigation Plan ¹	60	3-Dec-20	1-Feb-21
8	Topographic & Boundary Survey ²	90	1-Feb-21	2-May-21
9	Baseline Data Collection ²	90	1-Feb-21	2-May-21
10	30% Design, Engineering, Modeling ²	90	1-Feb-21	2-May-21
11	65% Design,USACE Final Mitigation Plan Development / MDE Phase	90	2-May-21	31-Jul-21
12	USACE /MDE/SHA Review & Comment	45	31-Jul-21	14-Sep-21
13	Revise Plans (90%) in Response to Comments & Resubmit	15	14-Sep-21	29-Sep-21
14	Phase II Mitigation Approval	120	29-Sep-21	27-Jan-22
15	Finalize & Secure Local Permits	120	14-Sep-21	12-Jan-22
16	Post Required Regulatory Financial Assurances	30	12-Jan-22	11-Feb-22
17	Mob, Construction Stakeout and Site Controls	21	11-Feb-22	4-Mar-22
18	Grading/Earthwork/Instream Structure Placement ³	180	4-Mar-22	31-Aug-22
19	Site Stabilization & De-mob	14	31-Aug-22	14-Sep-22
19	Native Plant Installation ⁴	90	14-Sep-22	13-Dec-22
20	As Built Survey & Metes/Bounds & Construction Completion Report	60	13-Dec-22	11-Feb-23
21	Record Final Conservation Easements	60	11-Feb-23	12-Apr-23
22	Year 1 Stream & Wetland Monitoring	365	1-Jan-23	31-Dec-23
23	Year 2 Stream & Wetland Monitoring & Reporting	365	1-Jan-24	31-Dec-24
24	Year 3 Stream & Wetland Monitoring & Reporting	365	1-Jan-25	1-Jan-24
25	Year 4 Stream & Wetland Monitoring	365	1-Jan-26	1-Jan-27
26	Year 5 Stream & Wetland Monitoring & Reporting	365	1-Jan-27	2-Jan-24
27	Year 6 Stream & Wetland Monitoring	365	1-Jan-28	31-Dec-28
28	Year 7 Stream & Wetland Monitoring & Reporting	365	1-Jan-29	3-Jan-24
29	Year 8 Stream & Wetland Monitoring	365	1-Jan-30	1-Jan-31
30	Year 9 Stream & Wetland Monitoring	365	1-Jan-31	4-Jan-24
31	Year 10 Stream & Wetland Monitoring & Reporting	365	1-Jan-32	31-Dec-32
32	Regulatory Approval of Mitigation Site Success	60	31-Dec-32	1-Mar-33

¹ Agency comments on the Phase I Mitigation Package will be incorporated into the Phase II Mitigation Package.

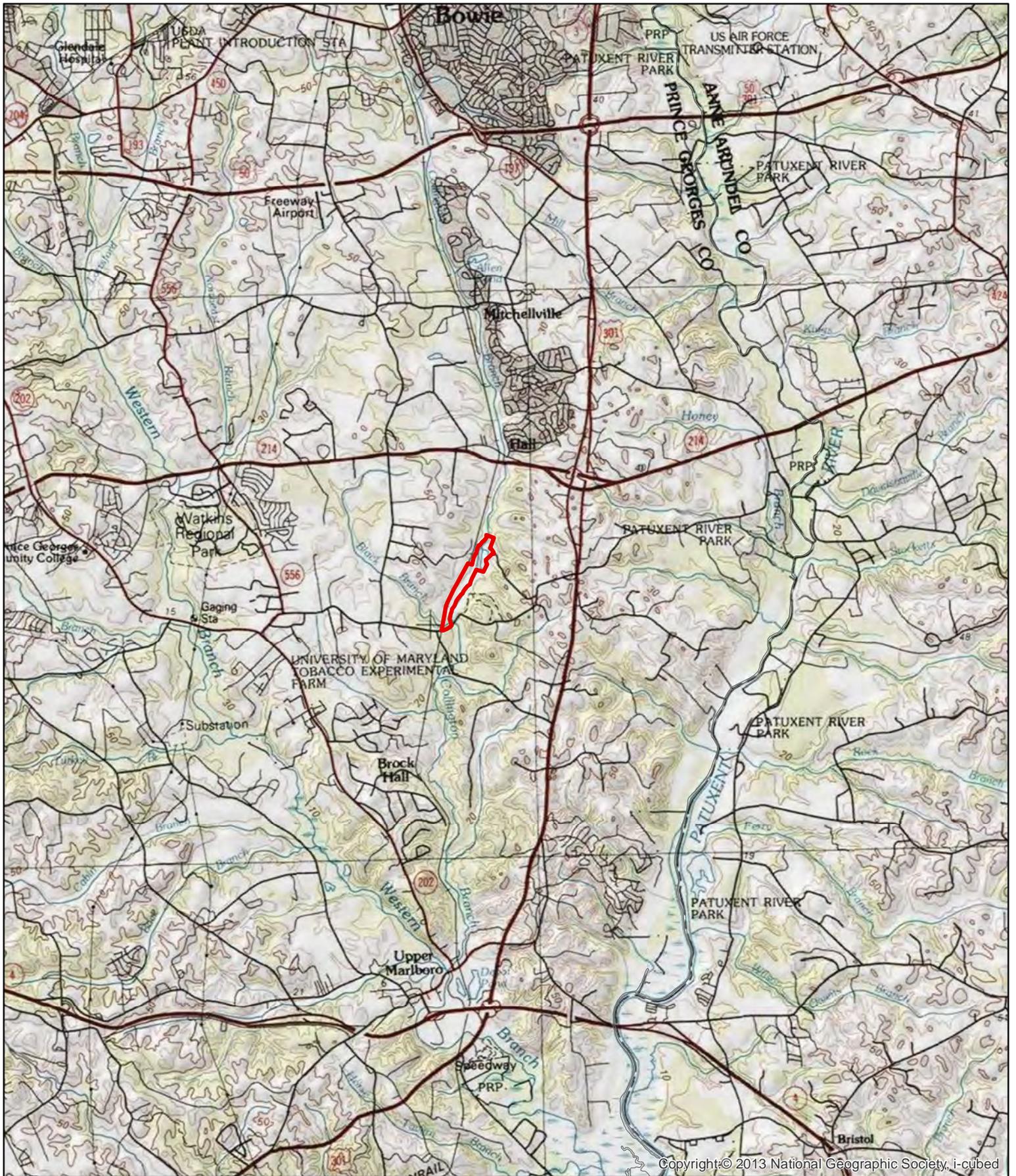
² Task work that may run in parallel to preparation of the Phase I Mitigation Package.

³ Constuction schedule is estimated and is subject to prevailing field conditions and time of year restrictions (for in-stream work).

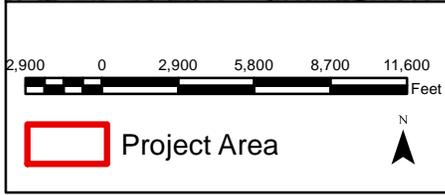
⁴ Planting will commence during the next seasonal planting window following construction.

ATTACHMENT 4
LAKE COLLINGTON MITIGATION PROJECT SUPPORTING DOCUMENTATION

EXHIBIT 1 – 7.5 Minute Topographic Map



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USGS Map

Lake Collington
Upper Marlboro Quadrangle

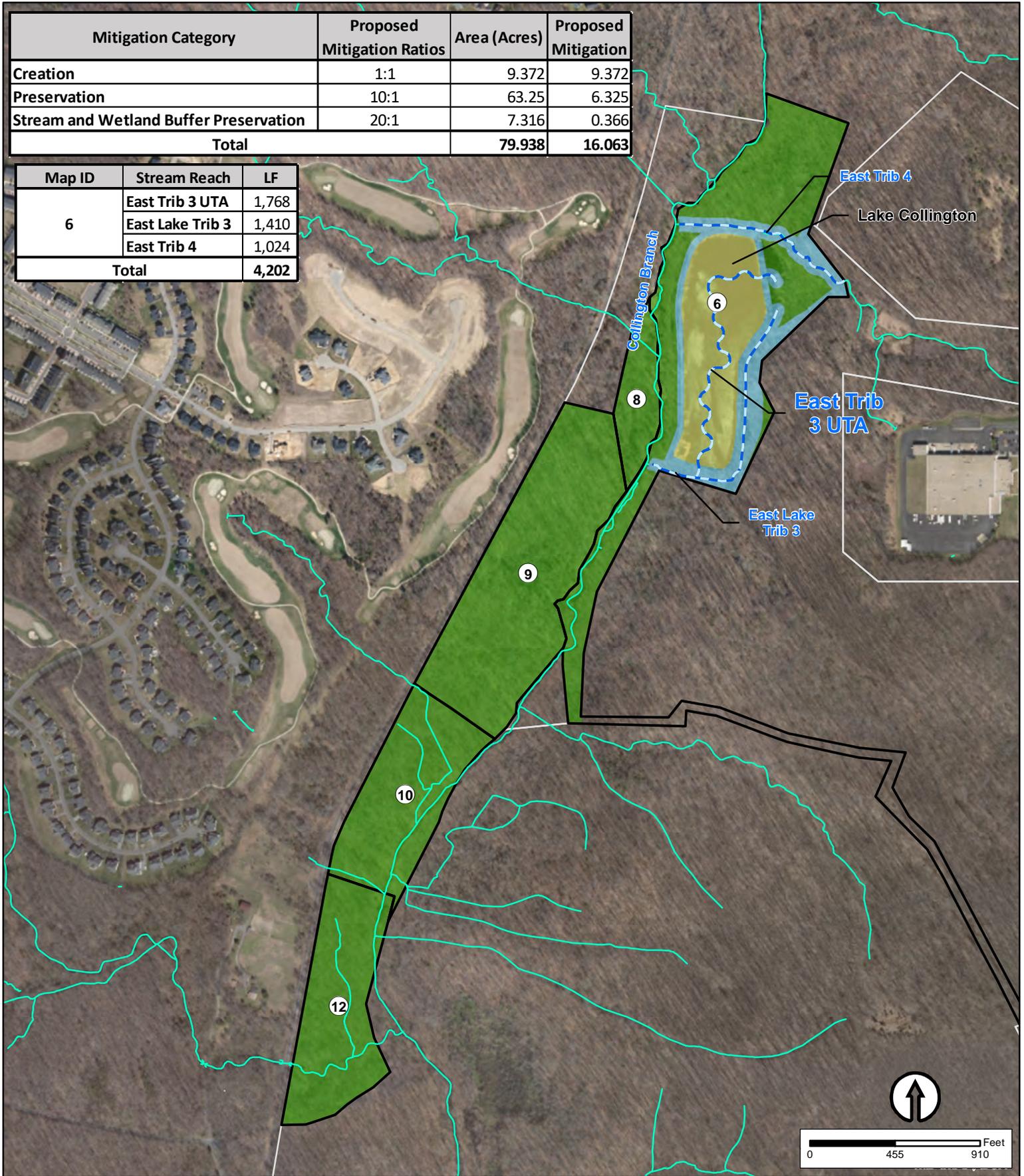
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Bowie, MD 20716
410-987-5500 www.greenvestus.com

EXHIBIT 2 – Conceptual Mitigation Plan

Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
Creation	1:1	9.372	9.372
Preservation	10:1	63.25	6.325
Stream and Wetland Buffer Preservation	20:1	7.316	0.366
Total		79.938	16.063

Map ID	Stream Reach	LF
6	East Trib 3 UTA	1,768
	East Lake Trib 3	1,410
	East Trib 4	1,024
Total		4,202



- Stream Restoration
- PG County GIS Streams
- Subject Parcels
- Adjacent Parcels
- Creation
- Preservation
- Stream and Wetland Buffer Preservation

LAKE COLLINGTON CONCEPT MAGLEV MITIGATION

Upper Marlboro, Maryland 20772, Prince George's County



EXHIBIT 3 – Select Site Photographs

VIEW #1

Lake Collington
facing south from
northern shore

Photo date: February
2020



VIEW #2

Southwestern corner
of Lake Collington

Photo date: February
2020



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PHOTOGRAPHS & DESCRIPTIONS
Lake Collington Mitigation Project

MUNICIPALITY: Upper Marlboro
COUNTY: Prince George's

VIEW #3

Stream and wetlands on the western side of Lake Collington (facing north). These are the headwaters of the East Lake Trib 3 channel. Note the PVC in the center of the photograph is a groundwater monitoring well being used to assess water levels in, and surrounding, the pond.

Photo date: February 2020



VIEW #4

Eastern side of Lake Collington facing south. View of East Lake Trib 3.

Photo date: 10/5/20



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VISION • PERFORMANCE • RESULTS

PHOTOGRAPHS & DESCRIPTIONS
Lake Collington Mitigation Project

MUNICIPALITY: Upper Marlboro
COUNTY: Prince George's

VIEW #5

View of floodplain wetlands located on the southern side of Lake Collington. The structure in the center background is associated with Lake Collington (former pump house).

Photo date: 10/5/20



VIEW #6

View of East Trib 4, north of Lake Collington.

Photo date: 2/19/19



VIEW #7

Collington Branch
facing upstream, west
of Lake Collington.

Photo date: February
2019



VIEW #8

Additional view of
Collington Branch
west of Lake
Collington.

Photo date: 2/19/19



GreenVest
VISION • PERFORMANCE • RESULTS

PHOTOGRAPHS & DESCRIPTIONS
Lake Collington Mitigation Project

MUNICIPALITY: Upper Marlboro
COUNTY: Prince George's

EXHIBIT 4 – Regulatory Correspondence



MARYLAND DEPARTMENT OF NATURAL RESOURCES
Lake Collington Mitigation Site



November 25, 2020

Ms. Lori Byrne
DNR Wildlife & Heritage Service – Environmental Review
580 Taylor Ave.
Tawes Office Bldg E-1
Annapolis, MD 21401

Dear Ms. Byrne:

GreenVest, LLC is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the proposed Lake Collington Stream and Wetland Mitigation Project (Project) near Commerce Court in Collington Trade Center in Upper Marlboro, Prince George's County, Maryland (See attached USGS Map). The Project includes five (5) privately-owned parcels that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

- Lake Collington LLC, Leeland Road, Map 77, Grid B1, Parcel 41 (Concept Plan ID #6)
- Earnest D. Maier Jr. & Alvin R. et al., 410 S. Church Road, Map77, Grid A1, Parcel 23 (Concept Plan ID #8)
- Florida on the Potomac LLC, 14700 Leeland Road, Map 77, Grid A2, Parcel 24 (Concept Plan ID #9)
- Helen A. Fineran & Carol A. Diaz et al., James & Donald Lopez et al., 14800 Leeland Road, Map 77, Grid A2, Parcel 2(Concept Plan ID #10)
- Glenn E. & Cleopatra T. Oates, 14804 Leeland Street, Map 77, Grid A3, Parcel 3 (Concept Plan ID #12)

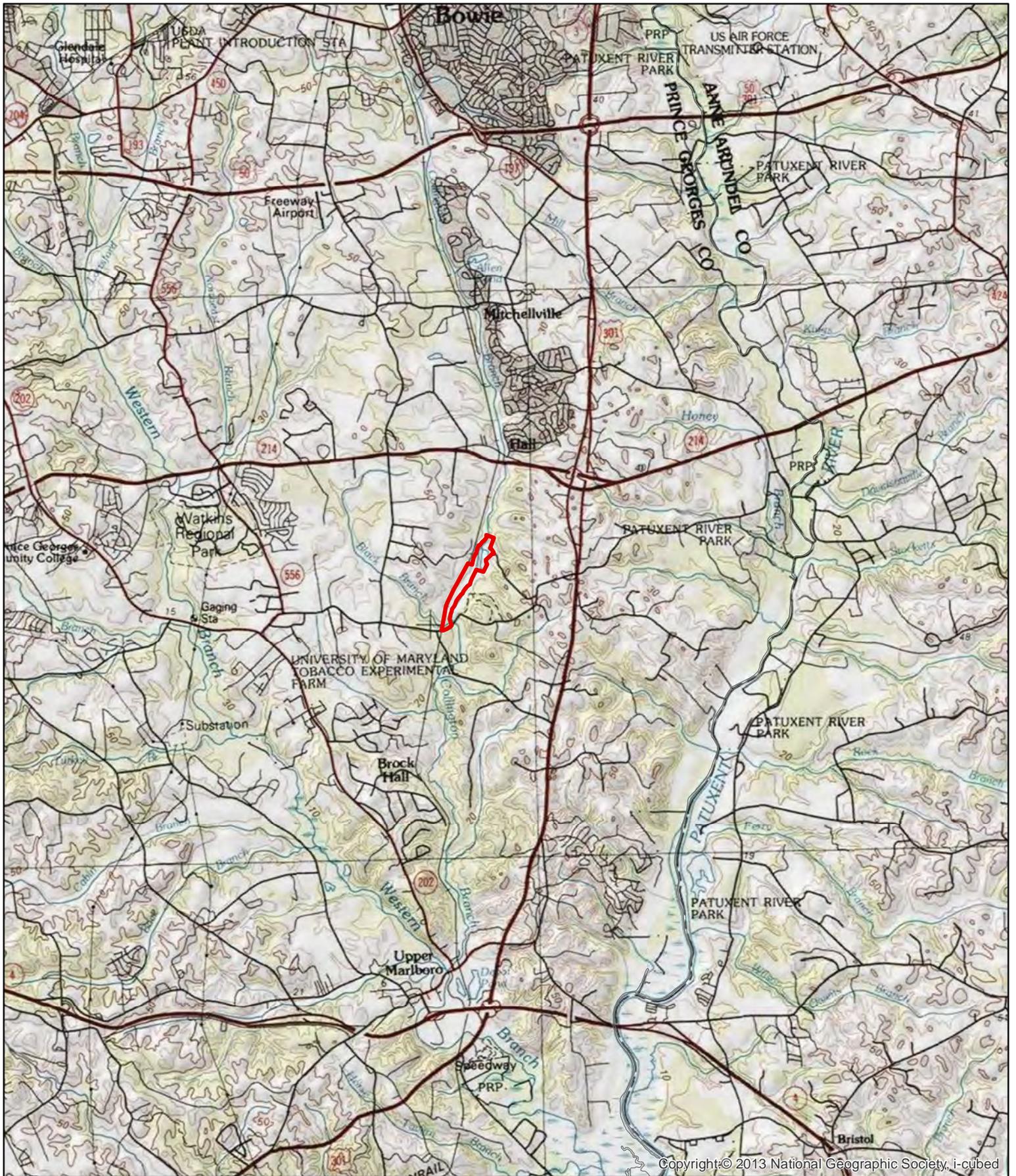
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We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

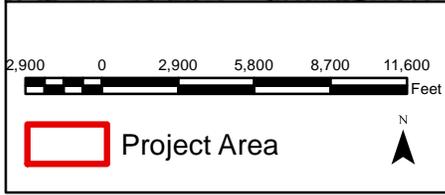
Sincerely,

A handwritten signature in black ink, appearing to read "Zachary Tyszkiewicz".

Zachary Tyszkiewicz



Copyright © 2013 National Geographic Society, i-cubed



USGS Map

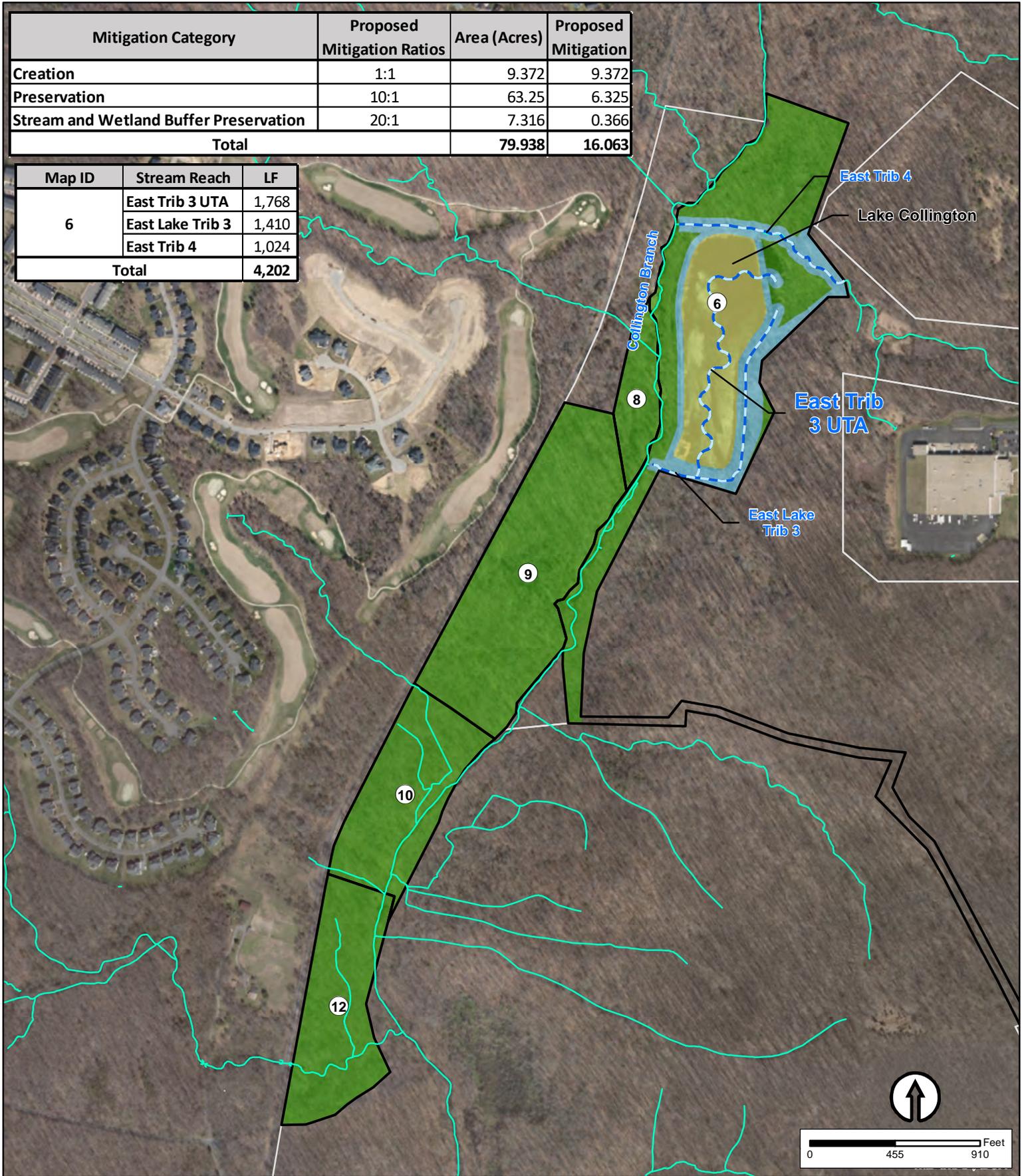
Lake Collington
Upper Marlboro Quadrangle

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4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500 www.greenvestus.com

Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
Creation	1:1	9.372	9.372
Preservation	10:1	63.25	6.325
Stream and Wetland Buffer Preservation	20:1	7.316	0.366
Total		79.938	16.063

Map ID	Stream Reach	LF
6	East Trib 3 UTA	1,768
	East Lake Trib 3	1,410
	East Trib 4	1,024
Total		4,202



- Stream Restoration
- PG County GIS Streams
- Subject Parcels
- Adjacent Parcels
- Creation
- Preservation
- Stream and Wetland Buffer Preservation

LAKE COLLINGTON CONCEPT MAGLEV MITIGATION

Upper Marlboro, Maryland 20772, Prince George's County





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

November 20, 2020

Consultation Code: 05E2CB00-2021-SLI-0251

Event Code: 05E2CB00-2021-E-00609

Project Name: Lake Collington

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2021-SLI-0251

Event Code: 05E2CB00-2021-E-00609

Project Name: Lake Collington

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Stream and Wetland Restoration Project in Upper Marlboro, MD.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.881720800611006N76.74231852476315W>



Counties: Prince George's, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1/SS1A](#)
- [PFO1/SS1C](#)
- [PFO1A](#)
- [PFO1C](#)
- [PFO1Ch](#)
- [PFO1E](#)

FRESHWATER POND

- [PUBHx](#)

RIVERINE

- [R4SBC](#)
 - [R5UBH](#)
 - [R2UBH](#)
-

**MARYLAND HISTORIC TRUST
Lake Collington Mitigation Site**



November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

Dear Ms. Cole:

GreenVest, LLC is requesting any information you may have regarding historic or cultural resources located within the proposed Lake Collington Stream and Wetland Mitigation Project (Project) near Commerce Court in Collington Trade Center in Upper Marlboro, Prince George's County, Maryland (See attached USGS Map).

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration and preservation of aquatic resources in the Collington Branch stream corridor. The proposed project includes restoration of multiple unnamed tributaries to Collington Branch, stream and wetland creation in the footprint of Lake Collington, and wetland preservation (See attached Concept Plan). The primary objectives of the Project are to improve stream and wetland function by improving bank and channel stability, enhancing in-stream habitat, preserving and restoring wetland hydrology, and reducing erosion and sedimentation.

The Project includes five (5) privately-owned parcels that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

- Lake Collington LLC, Leeland Road, Map 77, Grid B1, Parcel 41 (Concept Plan ID #6)
- Earnest D. Maier Jr. & Alvin R. et al., 410 S. Church Road, Map77, Grid A1, Parcel 23 (Concept Plan ID #8)
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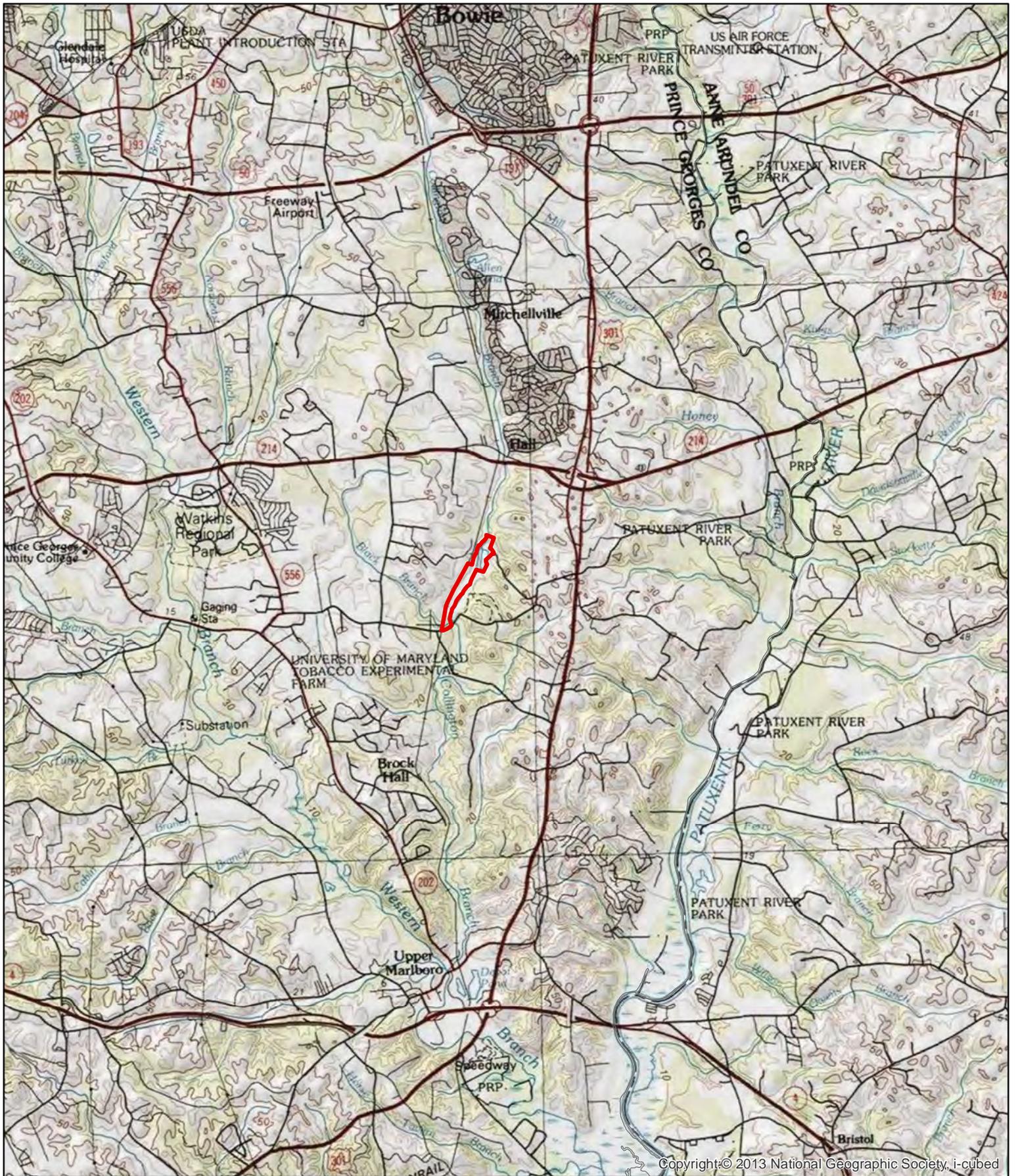
These parcels are all located in the Collington Branch stream valley and are largely forested wetlands located within the floodplain. The exception is Lake Collington which is a man-made pond constructed between 1964 and 1980 and as a used water treatment lagoon. There only structure located on the parcels is the former pump house associated with the water treatment lagoon. Based on historical aerial photographs dating back to 1957, the footprint of Lake Collington was previously under agricultural use. The rest of the project area has been forested since prior to 1957.

GreenVest searched Maryland's Environmental Resources and Land Information Network (MERLIN) data layers for Maryland Inventory of Historic Properties, National Register of Historic Places, and MHT Preservation Easements. None of these features were identified on the Project properties.

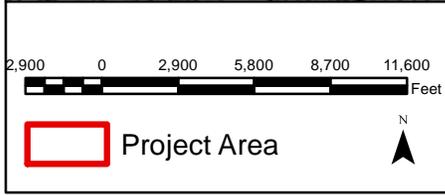
We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz



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USGS Map

Lake Collington
Upper Marlboro Quadrangle

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4201 Northview Drive, Suite 202
Bowie, MD 20716
410-987-5500 www.greenvestus.com

**U.S. FISH AND WILDLIFE SERVICE
Lake Collington Mitigation Site**



November 25, 2020

Endangered Species Project Review
US Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Ms. Cullen:

GreenVest, LLC is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the proposed Lake Collington Stream and Wetland Mitigation Project (Project) near Commerce Court in Collington Trade Center in Upper Marlboro, Prince George's County, Maryland (See attached USGS Map). The Project includes five (5) privately-owned parcels that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

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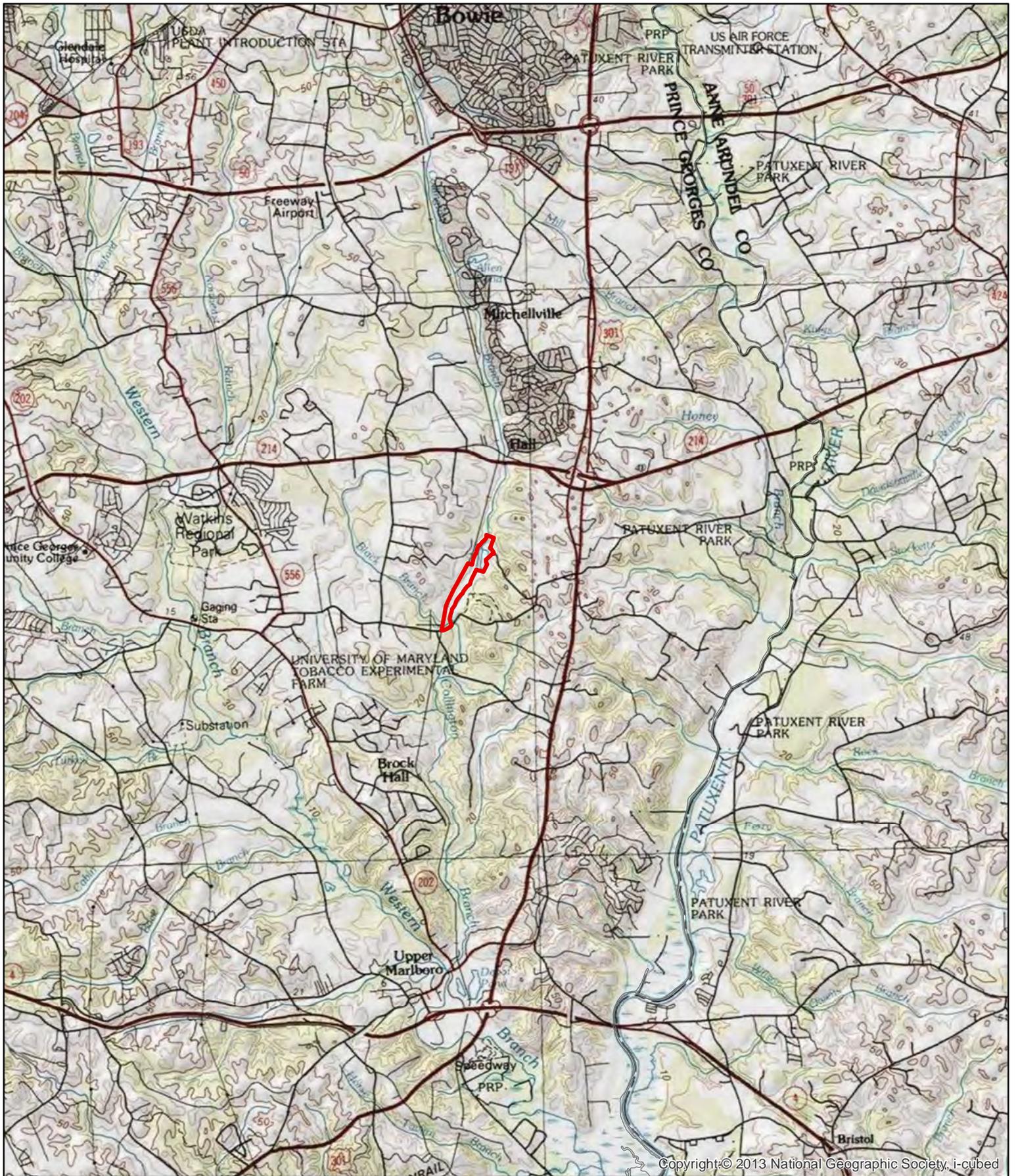
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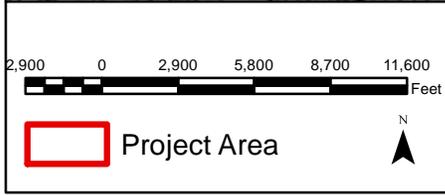
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Zachary Tyszkiewicz



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USGS Map

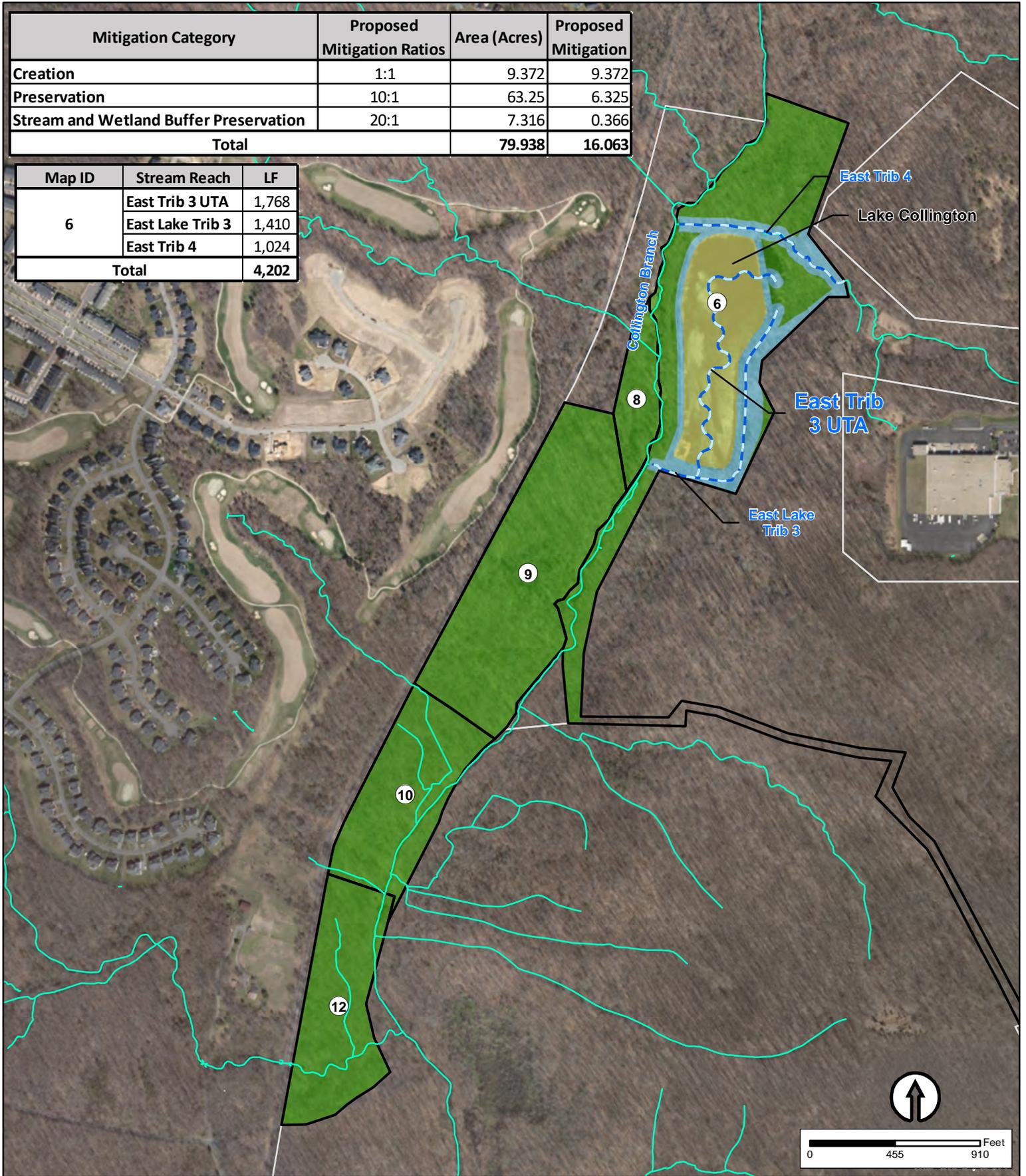
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Upper Marlboro Quadrangle

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Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
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Map ID	Stream Reach	LF
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	East Lake Trib 3	1,410
	East Trib 4	1,024
Total		4,202



- Stream Restoration
- PG County GIS Streams
- Subject Parcels
- Adjacent Parcels
- Creation
- Preservation
- Stream and Wetland Buffer Preservation

LAKE COLLINGTON CONCEPT MAGLEV MITIGATION

Upper Marlboro, Maryland 20772, Prince George's County





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
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Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
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In Reply Refer To:

November 20, 2020

Consultation Code: 05E2CB00-2021-SLI-0251

Event Code: 05E2CB00-2021-E-00609

Project Name: Lake Collington

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

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We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2021-SLI-0251

Event Code: 05E2CB00-2021-E-00609

Project Name: Lake Collington

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Stream and Wetland Restoration Project in Upper Marlboro, MD.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.881720800611006N76.74231852476315W>



Counties: Prince George's, MD

Endangered Species Act Species

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See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

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For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1/SS1A](#)
- [PFO1/SS1C](#)
- [PFO1A](#)
- [PFO1C](#)
- [PFO1Ch](#)
- [PFO1E](#)

FRESHWATER POND

- [PUBHx](#)

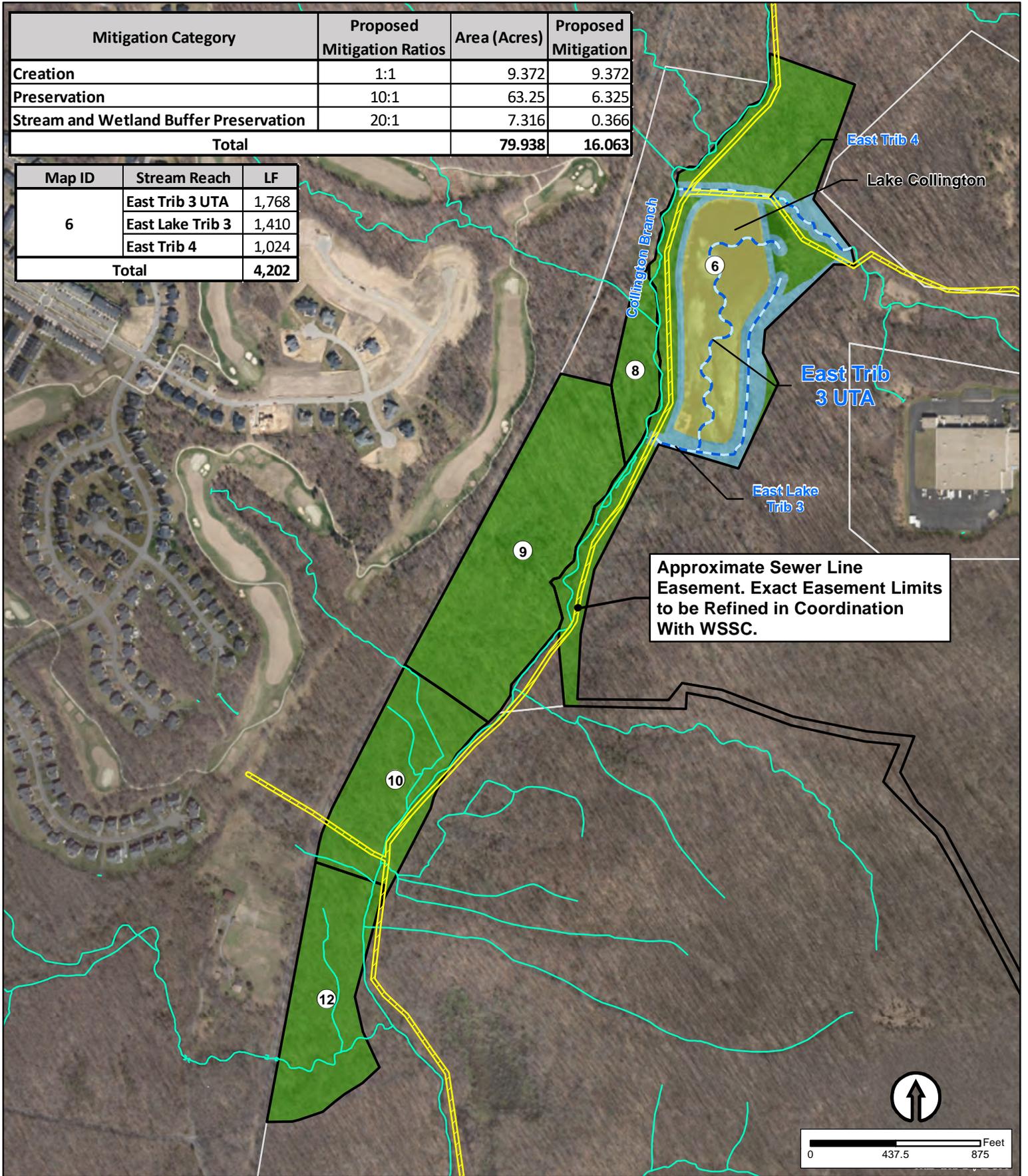
RIVERINE

- [R4SBC](#)
 - [R5UBH](#)
 - [R2UBH](#)
-

EXHIBIT 5 – Site Easement Map

Mitigation Category	Proposed Mitigation Ratios	Area (Acres)	Proposed Mitigation
Creation	1:1	9.372	9.372
Preservation	10:1	63.25	6.325
Stream and Wetland Buffer Preservation	20:1	7.316	0.366
Total		79.938	16.063

Map ID	Stream Reach	LF
6	East Trib 3 UTA	1,768
	East Lake Trib 3	1,410
	East Trib 4	1,024
Total		4,202



Approximate Sewer Line Easement. Exact Easement Limits to be Refined in Coordination With WSSC.

Approximate Sewer Easement Location	Adjacent Parcels
Stream Restoration	Creation
PG County GIS Streams	Preservation
Subject Parcels	Stream and Wetland Buffer Preservation

LAKE COLLINGTON CONCEPT
MAGLEV MITIGATION
FIGURE 5
EASEMENTS & ENCUMBERANCES

Upper Marlboro, Maryland 20772, Prince George's County



EXHIBIT 6 – Project Schedule

11/27/2020

MagLev - Full Delivery, Stream & Wetland Mitigation Program
 Lake Collington Stream & Wetland Mitigation Site Schedule

Color Key	
	Reg. Agency
	GV
	BWRR

Item	Project Milestone	Duration	Start	Complete
Phase I : Phase I/Phase II Mitigation Packages				
3	Prepare & Submit Phase I Mitigation Package to BWRR	10	18-Nov-20	28-Nov-20
4	BWRR Review, comment generation	3	29-Nov-20	2-Dec-20
5	Prepare & Submit Final Phase I Mitigation Package to BWRR	1	2-Dec-20	3-Dec-20
6	Schedule/Attend Regulatory Virtual or Field Meeting	75	18-Nov-20	1-Feb-21
7	Receive Agency Comments on Phase I Mitigation Plan ¹	60	3-Dec-20	1-Feb-21
8	Topographic & Boundary Survey ²	90	1-Feb-21	2-May-21
9	Baseline Data Collection ²	90	1-Feb-21	2-May-21
10	30% Design, Engineering, Modeling ²	90	1-Feb-21	2-May-21
11	65% Design,USACE Final Mitigation Plan Development / MDE Phase	90	2-May-21	31-Jul-21
12	USACE /MDE/SHA Review & Comment	45	31-Jul-21	14-Sep-21
13	Revise Plans (90%) in Response to Comments & Resubmit	15	14-Sep-21	29-Sep-21
14	Phase II Mitigation Approval	120	29-Sep-21	27-Jan-22
15	Finalize & Secure Local Permits	120	14-Sep-21	12-Jan-22
16	Post Required Regulatory Financial Assurances	30	12-Jan-22	11-Feb-22
17	Mob, Construction Stakeout and Site Controls	21	11-Feb-22	4-Mar-22
18	Grading/Earthwork/Instream Structure Placement ³	180	4-Mar-22	31-Aug-22
19	Site Stabilization & De-mob	14	31-Aug-22	14-Sep-22
19	Native Plant Installation ⁴	90	14-Sep-22	13-Dec-22
20	As Built Survey & Metes/Bounds & Construction Completion Report	60	13-Dec-22	11-Feb-23
21	Record Final Conservation Easements	60	11-Feb-23	12-Apr-23
22	Year 1 Stream & Wetland Monitoring	365	1-Jan-23	31-Dec-23
23	Year 2 Stream & Wetland Monitoring & Reporting	365	1-Jan-24	31-Dec-24
24	Year 3 Stream & Wetland Monitoring & Reporting	365	1-Jan-25	1-Jan-24
25	Year 4 Stream & Wetland Monitoring	365	1-Jan-26	1-Jan-27
26	Year 5 Stream & Wetland Monitoring & Reporting	365	1-Jan-27	2-Jan-24
27	Year 6 Stream & Wetland Monitoring	365	1-Jan-28	31-Dec-28
28	Year 7 Stream & Wetland Monitoring & Reporting	365	1-Jan-29	3-Jan-24
29	Year 8 Stream & Wetland Monitoring	365	1-Jan-30	1-Jan-31
30	Year 9 Stream & Wetland Monitoring	365	1-Jan-31	4-Jan-24
31	Year 10 Stream & Wetland Monitoring & Reporting	365	1-Jan-32	31-Dec-32
32	Regulatory Approval of Mitigation Site Success	60	31-Dec-32	1-Mar-33

¹ Agency comments on the Phase I Mitigation Package will be incorporated into the Phase II Mitigation Package.

² Task work that may run in parallel to preparation of the Phase I Mitigation Package.

³ Constuction schedule is estimated and is subject to prevailing field conditions and time of year restrictions (for in-stream work).

⁴ Planting will commence during the next seasonal planting window following construction.



Appendix C - Template Easements

This Conservation Easement Template is a standardized document for Mitigation Banks in Maryland. Modifications to this template shall be identified using tracked changes with an explanation for those changes provided in a cover memorandum.

(Template Version Date: 05 August 2019)

STATE OF MARYLAND
COUNTY OF _____

CONSERVATION EASEMENT
(Insert Bank Name)

[USE THIS VERSION IF THE MITIGATION BANK SPONSOR IS THE SAME ENTITY AS THE EASEMENT HOLDER:]

THIS CONSERVATION EASEMENT ("Conservation Easement") is made this _____ day of _____, 20____, by ***[FULL LEGAL NAME OF GRANTING LANDOWNER]*** ("Grantor(s)") in favor of ***[FULL LEGAL NAME OF HOLDER OF CONSERVATION EASEMENT]*** ("Holder") (collectively, the "Parties"), with the U.S. Army Corps of Engineers, Baltimore District (the "Corps" or "Baltimore District") and the Maryland Department of the Environment ("MDE") as Third-Party Beneficiaries (collectively the "Third Parties").

[USE THIS VERSION IF THE MITIGATION BANK SPONSOR IS NOT THE HOLDER OF THE EASEMENT:]

THIS CONSERVATION EASEMENT made this _____ day of _____, 20____, by *[full legal name of granting landowner]* (the "Grantor"), in favor of ***[FULL LEGAL NAME OF HOLDER OF THE CONSERVATION EASEMENT]*** (the "Holder") and ***[FULL LEGAL NAME OF THE MITIGATION BANK SPONSOR]*** (the "Bank Sponsor") (collectively, the "Parties"), with the U.S. Army Corps of Engineers (the "Corps," to include any successor agency) and the Maryland Department of the Environment ("MDE," to include any successor agency) as Third-Party Beneficiaries (collectively the "Third Parties").

RECITALS

WHEREAS, Grantor(s) is/are the fee simple owner(s) of certain real property ("Property" which shall include wetlands, streams, any interest in submerged lands, uplands, associated riparian/littoral rights, and other aquatic resources) located in _____ County, Maryland, more particularly ***[DESCRIBE TRACT TO BE PRESERVED, INCLUDING: 1) ACREAGE, 2) A REFERENCE TO RECORDED PLAT(S), AND 3) ANY EXCLUDED PROPERTY]*** and shown in Exhibit A (i.e., metes and bounds of the Property), and Exhibit B (i.e., a metes and bounds and a scaled plat of the area subject to the Conservation Easement, the "Conservation Area"), and made a part hereof; and

WHEREAS, this Conservation Easement is granted in support of the Mitigation Banking Instrument (“MBI”) dated, _____, 20__ and incorporated by reference in this document, by and between **[INSERT BANK SPONSOR FULL LEGAL NAME]** (“Bank Sponsor”) and the Interagency Review Team (the “IRT”), which consists of the Corps, MDE, the U.S. Environmental Protection Agency (“EPA”), the U.S. Fish and Wildlife Service (“USFWS”), the National Oceanic and Atmospheric Administration (“NOAA”); the Critical Area Commission for the Chesapeake and Atlantic Coastal Bays (“CAC”); the Maryland Historic Trust (“MHT”); and the Maryland Department of Natural Resources (“DNR”);

WHEREAS, pursuant to the MBI, the Bank Sponsor proposes to create, maintain, and preserve a high-quality, self-sustaining natural aquatic system and buffer located on a portion of the Property described in Exhibit B attached hereto (the “Conservation Area”), which contains or will contain land, functions, values, and services that may serve as compensation and mitigation for impacts to waters of the United States and/or waters of the State that were permitted by the Third Parties; and

WHEREAS, the Parties intend that the Conservation Area will be used as a mitigation bank to be known as the **[INSERT BANK NAME]**, Department of the Army Action ID **[INSERT ACTION ID NUMBER FOR THE MBI]** approved by IRT; and

WHEREAS, under Federal and State law, the Corps has issued Permit No. _____, and MDE has issued Permit No. _____ (collectively, the “Permits”), for impacts to waters of the United States and/or the State of Maryland expected to result from the creation of the self-sustaining natural aquatic system located on the Conservation Area; and

WHEREAS, the MBI requires that this Conservation Easement be executed and recorded in order that the Conservation Area shall remain substantially in its natural or improved condition forever; and

WHEREAS, the Bank Sponsor(s) desire(s) to comply with the conditions of the MBI by imposing this Conservation Easement on a Conservation Area within the Property; and

WHEREAS, in recognition of the continuing benefit to the Property, and for the protection of aquatic resources and scenic, resource, environmental, and general property values, the Grantor and Holder have agreed to place this Conservation Easement on the Property, in order that the Conservation Area shall be retained and maintained in perpetuity predominately in accordance with the vegetative and hydrological conditions described in the attached compensatory mitigation performance standards of the MBI (Exhibit C);

NOW THEREFORE, for good and valuable consideration and in consideration of the mutually held interests in enhancement and preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to the laws of the United States and the State of Maryland, Grantor does agree to the following terms and conditions, which shall run with the land and be binding in perpetuity and forever on all heirs, successors, assigns (they are included in the terms, "Grantor," below), lessees, or other occupiers and users.

1. **Purpose.** The purpose of this Conservation Easement is to preserve, protect, and enhance the native flora, fauna, soils, water table, aquifers, springs, drainage patterns, wetland resources, and other related environmental functions and values of the Conservation Area in perpetuity and to prevent any use of the Property that will impair or interfere with the aquatic resource values of the Property;

2. **Covenants and Restrictions.** Neither the Grantor(s), nor any subsequent owner or owners of the Conservation Area or any portion thereof, shall undertake or cause to be undertaken within or upon the Conservation Area within the Property, as described in (*Recitals and/or the site plan attached*), any of the following:

a. Removal, excavation, or dredging of soil, sand, gravel, minerals, organic matter, or materials of any kind;

b. Changing existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics;

c. Disturbance of the water level or water table by drainage, impoundment, or other means;

d. Dumping, discharging of material, or filling with material, including the driving of piles and placing of obstructions;

e. Grading or removal of material that would alter existing topography;

f. Destruction or removal of plant life that would alter the character of the aquatic resources, or introduction of exotic species;

g. Agricultural or forestry activities, such as aquaculture, plowing, tillage, cropping, seeding, cultivating, and grazing and raising of livestock, sod production, harvesting for production of food and fiber products. Forestry activities mean planting, cultivating, thinning, harvesting, or any other activity undertaken to use forest resources or to improve their quality or productivity;

h. Use of off-road vehicles and motor vehicles;

i. Destruction or alteration of the Conservation Area EXCEPT:

(i) Alteration necessary to construct the mitigation areas and associated improvements proposed to be built by _____, or its successors, and/or assigns, as approved in the mitigation plan included in the approved MBI and the Permits;

(ii) Alteration necessary to ensure the success of the mitigation areas including monitoring, reconstruction, maintenance, or repair of the constructed mitigation areas, as approved by the Corps and MDE;

(iii) Removal of vegetation when approved by the Corps and MDE and conducted for removal of noxious or invasive plants;

[IF REFERENCE IS MADE TO THE PERMIT, OR TO A MITIGATION PLAN APPROVED BY THE PERMIT, ALL EXCEPTIONS (INCLUDING THOSE AFFECTING BUFFER AREAS) MUST BE SPECIFICALLY SPELLED OUT IN THE PERMIT OR PLAN; ALSO, ADDITIONAL, SPECIFIC, EXCEPTIONS MAY BE LISTED IN THIS PARAGRAPH, E.G., FIRE OR WILDLIFE MANAGEMENT PLANS, BOARDWALKS, ETC].

j. Utilizing a non-reporting Nationwide Permit, Regional Permit, or State Programmatic General Permit under Section 404 of the Clean Water Act or state general permits under MDE regulations to impact any aquatic feature on the Property. Notification shall be required to the Corps and MDE for the use of any Nationwide Permit, State Programmatic General Permit, or Regional Permit.

3. Duration and Amendment. The covenants and restrictions listed herein are created pursuant to the Annotated Code of Maryland, Real Property Article § 2-118 and shall run with and bind the Property, and be binding on the Grantor(s), its/their personal representatives, heirs, successors and assigns, unless and until terminated or modified by the Third Parties, or other Federal, State, or County agencies which have the legal authority to enforce these covenants and restrictions by regulations, permit, or agreement. The failure of the Third Parties, or other such agencies to enforce the provisions of this Conservation Easement shall not be deemed a waiver of any rights created hereunder. After recording, this Conservation Easement may only be amended by a recorded document signed by the Third Parties and Grantor(s). The recorded document, as amended, shall be consistent with the Baltimore District and MDE model conservation easements at the time of amendment. Amendment shall be allowed at the discretion of the Third Parties, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Third Parties' mitigation policies at the time of amendment. There shall be no obligation to allow an amendment. The Third Parties shall be provided with a 60-day advance written notice of any legal action concerning this Conservation Easement or of any action to extinguish, void, or modify this Conservation Easement in whole or in

part. This Conservation Easement is intended to survive foreclosure, bankruptcy, condemnation, or judgments affecting the Property. Should the Property be transferred, sold, or conveyed, be subject to foreclosure or bankruptcy, or transferred by any other means whatsoever, the Grantor or Bank Sponsor shall immediately notify the Corps in writing. This Conservation Easement shall not be invalid solely because aquatic resources within the Conservation Area are determined not to be waters of the United States or waters of the State.

4. Notice to Government. Any permit application, or request for certification or modification, which may affect the Conservation Area, made to any governmental entity with authority over wetlands or other waters of the United States and/or waters of the State, shall expressly reference and include a copy (with the recording stamp) of this Conservation Easement.

5. Reserved Rights. It is expressly understood and agreed that this easement does not grant or convey to members of the general public any rights of ownership, entry or use of the Conservation Area. This easement is created solely for the protection of the Property, and for the consideration and values set forth above, and Grantor(s) reserve(s) the ownership of the fee simple estate and all rights appertaining thereto, including without limitation the rights to exclude others and to use the property for all purposes not inconsistent with this Conservation Easement.

6. Monitoring and Maintenance. The Holder, Bank Sponsor, Long-Term Steward (as defined in the MBI), and their authorized agents shall have the right to enter and go upon the lands of Grantor(s) to monitor and manage the Conservation Area to ensure compliance with the Mitigation Site Plan ("Mitigation Site Plan") and Long-Term Management Plan ("Approved Long-Term Management Plan") approved in the MBI. This may include, but is not limited to, completing annual monitoring, controlling invasive species, planting native vegetation, repairing signs/fences, and repairing erosion.

7. Compliance Inspections. The Holder, Bank Sponsor, Long-Term Steward, Corps, MDE, IRT, and its/their authorized agents shall have the right to enter and go upon the lands of Grantor(s), to inspect the Conservation Area and take actions necessary to verify compliance with the Mitigation Site Plan, the Approved Long-Term Management Plan, and this Conservation Easement.

8. Enforcement. The Grantor(s) grant(s) to the Holder, Bank Sponsor, Corps, the U.S. Department of Justice, and MDE, a discretionary right to enforce this Conservation Easement in a judicial action against any person(s) or other entity(ies) violating or attempting to violate this Conservation Easement; provided, however, that no violation of this Conservation Easement shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing entity shall be entitled to a complete restoration for any

violation, as well as any other judicial remedy, such as civil penalties. Nothing herein shall limit the right of the Corps and MDE to modify, suspend, or revoke the Permits.

9. Property Transfers. Grantor(s) shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property and/or Conservation Area (failure to comply with this paragraph does not impair the validity or enforceability of this Conservation Easement):

NOTICE: This property Subject to Conservation Easement Recorded at **[INSERT BOOK AND PAGE REFERENCES, COUNTY(IES), AND DATE OF RECORDING]**.

Grantor(s) agree(s) to give written notice to the Corps and MDE of the intent to transfer, sell, or convey any interest of the Property, or to amend this Conservation Easement by any other means whatsoever, at least sixty (60) days prior to the date of transfer.

10. Marking of Property. The perimeter of the Conservation Area shall at all times be plainly marked by permanent signs saying, "Protected Natural Area," or by an equivalent, permanent marking system.

[NOTE: THE GRANTOR, BANK SPONSOR, OR PERMITTEE MUST IDENTIFY ALL ENCUMBRANCES (I.E., MORTGAGES, LIENS, EASEMENTS, RIGHTS OF WAY, LEASES, ETC.), THAT MAY AFFECT THE CONSERVATION AREA AND SHOW THESE ENCUMBRANCES ON EXHIBIT B TO THIS EASEMENT. IF ANY ENCUMBRANCE AFFECTS THE CONSERVATION AREA, THEN SOME VERSION OF THE FOLLOWING CLAUSE SHOULD BE INCLUDED, AND THE HOLDER OF THAT INTEREST MUST SIGN, SUBORDINATING ITS INTEREST TO THIS CONSERVATION EASEMENT.]

11. Consent of Lender and Trustee. Grantor(s) is/are the maker(s) of a note dated _____ secured by a deed of trust dated _____ from the Grantor(s) to _____ as trustees and either of whom may act, recorded in the Clerk's office in Deed Book _____ at page _____, for the benefit of _____ Bank (The "Deed of Trust."). _____, as trustees, join herein for the sole purpose of subordinating the lien, dignity and priority of the Deed of Trust to this Conservation Easement. _____ Bank joins herein for the sole purpose of consenting to the trustee's actions.

12. Recording. Within thirty (30) calendar days of execution of this Conservation Easement, the Grantor(s) and Holder agree(s) to record this Conservation Easement in the Land Records of the County and provide the Third Parties with proof of recordation within thirty (30) calendar days of recordation. A plat depicting the boundaries of the Conservation Area subject to this Conservation Easement shall be recorded in the deed

records office for each county in which the Property is situated prior to or concurrent with the recording of this Conservation Easement. The plat(s) is/are recorded at **[INCLUDE BOOK AND PAGE REFERENCES, COUNTY(IES), AND DATE]**.

13. Separability Provision. Should any separable part of this Conservation Easement be held contrary to law, the remainder shall continue in full force and effect.

14. Inaccurate or Fraudulent Information. Should an easement, right or lease on or to the Property not shown on the survey or listed in this Conservation Easement and prior in time and recording to this Conservation Easement, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Conservation Easement, then the Grantor(s) shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps and MDE or any enforcer of this Conservation Easement shall determine in accordance with the Clean Water Act and/or the Maryland Nontidal Wetlands Act.

15. Eminent Domain. NOTICE TO PARTIES WITH EMINENT DOMAIN AUTHORITY: If the Property is taken in whole or in part through eminent domain, the consequential value of the Conservation Area protected by the Clean Water Act and/or the Maryland Nontidal Wetlands Act is the cost of replacement of the conservation functions, services and values with other property in the same watershed. Exercise of eminent domain by any party ("Condemning Party") to take land held as part of a mitigation bank site under this [Easement/Declaration] may remove restrictions that the Grantor, Grantee, Holder, the Corps or MDE intend will protect, in perpetuity, the Conservation Area, and preserve the land serving as compensation of other permitted impacts. Where the Condemning Party: (1) intends to take action(s) that will have impacts on the Conservation Area associated with debited mitigation credits, and (2) is required to obtain a Corps or MDE permit for such impacts, the Corps and MDE have discretion to increase the Condemning Party's wetland and/or stream compensation requirements, as part of the permitting process, in order to account for the loss of functions and values associated with the credits already debited and/or released from the mitigation bank site.

16. Merger. The doctrine of merger shall not operate to extinguish this Conservation Easement if the Conservation Easement and the Property become vested in the same party. If the doctrine of merger applies to extinguish the Conservation Easement then, unless Grantor, Holder, the Corps, and MDE otherwise agree in writing, a replacement conservation easement or restrictive covenant containing the same protections embodied in the conservation easement shall be recorded against the Conservation Area. The Grantor may suggest a new conservation easement holder and upon approval by the Corps and MDE, grant a conservation easement protecting the Conservation Area.

IN WITNESS WHEREOF, the Grantor(s) and Holder has/have duly executed this Conservation Easement the date written above.

IN THE PRESENCE OF:

Grantor(s)

By: _____

[type name of witness under signature line]

[type name of Grantor(s) under signature line]

Its:

STATE OF MARYLAND

COUNTY OF _____

PERSONALLY appeared before me _____, the undersigned witness, and made oath that *he/she* saw the within named _____ [, *by* _____, *its* _____,] sign, seal and as *his/her/its* act and deed, deliver the within named Conservation Easement; and that *he/she* with the other witness named above witnessed the execution thereof.

[type name of Notary Public under signature line]

SWORN to and subscribed before me

This _____ day of _____, 20__.

NOTARY PUBLIC FOR

My Commission Expires:

IN THE PRESENCE OF:

Holder

By:

[type name of witness under signature line]

[type name of Holder under signature line]

Its:

**STATE OF MARYLAND
COUNTY OF**

PERSONALLY appeared before me _____, the undersigned witness, and made oath that he/she saw the within named _____[, by _____, *its* _____,] sign, seal and as his/her/its act and deed, deliver the within named Conservation Easement; and that he/she with the other witness named above witnessed the execution thereof.

[*type name of Notary Public under signature line*]

SWORN to and subscribed before me
This _____ day of _____, 20____.

NOTARY PUBLIC FOR
My Commission Expires:

I hereby certify this conservation easement was prepared by or under the supervision of _____, an attorney admitted to practice by the Court of Appeals of Maryland.

*This Declaration of Restrictive Covenants Template is a standardized document for permittee-responsible mitigation sites in Maryland. Modifications to this template should be identified using tracked changes and an explanation for those changes provided in a cover memorandum.
(Template Version Date: 05 August 2019)*

STATE OF MARYLAND
COUNTY OF _____

DECLARATION OF RESTRICTIVE COVENANTS

THIS DECLARATION OF RESTRICTIVE COVENANTS is made this ____ day of ____,
20____, by _____ (“Declarant(s)”).

RECITALS

WHEREAS, Declarant(s) *is/are* the owner(s) of certain real property (“Property” which shall include wetlands, any interest in submerged lands, uplands, associated riparian/littoral rights, and other aquatic resources) located in _____ County, Maryland, more particularly [*describe tract to be preserved, including: 1) acreage, 2) a reference to recorded plat(s), and 3) any excluded property*] and shown in Exhibit A (i.e., metes and bounds of the Property), and Exhibit B (i.e., a metes and bounds and scaled plat of the area subject to the Declaration, the “Conservation Area”), and made a part hereof; and

WHEREAS, as compensatory mitigation under Federal and State law for Department of the Army Permit No. _____ (“Permit”) issued by the U.S. Army Corps of Engineers, Baltimore District (“Corps” or “Baltimore District,” to include any successor agency), and certification(s) and/or permit(s) No. _____ issued by the Maryland Department of the Environment (“MDE,” to include any successor agency), and incorporated by reference in this document, and in recognition of the continuing benefit to the permitted property, and for the protection of waters of the United States and/or the State of Maryland and scenic, resource, environmental, and general property values, Declarant(s) *has/have* agreed to execute and record this Declaration of Restrictive Covenants (“Declaration”) placing certain restrictive covenants on a Conservation Area within the Property, in order that the Conservation Area shall remain substantially in its natural condition forever predominately in accordance with the vegetative and hydrological conditions described in the attached compensatory mitigation performance standards (Exhibit C); and

WHEREAS, the Conservation Area may contain land, functions, values, and services that serve as compensation and mitigation for impacts to waters of the United States and/or waters of the State that were permitted by the Corps and/or MDE; and

WHEREAS, the Corps and MDE are third-party beneficiaries under this Declaration.

NOW THEREFORE, Declarant(s) hereby declare(s) that the Conservation Area shall be held, transferred, conveyed, leased, occupied or otherwise disposed of and used subject to the following restrictive covenants, which shall run with the land and be binding in perpetuity and forever on all heirs, successors, assigns (they are included in the terms, “Declarant,” below), lessees, or other occupiers and users.

1. **Purpose.** The purpose of this Declaration is to preserve, protect, and enhance the native flora, fauna, soils, water table, aquifers, springs, drainage patterns, wetland resources, and other related environmental functions and values of the Conservation Area in perpetuity and to prevent any use of the Property that will impair or interfere with the aquatic resource values of the Property;

2. Covenants and Restrictions. Neither the Declarant(s), nor any subsequent owner or owners of the Conservation Area or any portion thereof, shall undertake or cause to be undertaken within or upon the Conservation Area, within the Property, as described in (*Recitals and/or the site plan attached*), any of the following:

a. Removal, excavation, or dredging of soil, sand, gravel, minerals, organic matter, or materials of any kind;

b. Changing existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics;

c. Disturbance of the water level or water table by drainage, impoundment, or other means;

d. Dumping, discharging of material, or filling with material, including the driving of piles and placing of obstructions;

e. Grading or removal of material that would alter existing topography;

f. Destruction or removal of plant life that would alter the character of a nontidal wetland, or introduction of exotic species;

g. Agricultural or forestry activities, such as aquaculture, plowing, tillage, cropping, seeding, cultivating, and grazing and raising of livestock, sod production, harvesting for production of food and fiber products. Forestry activities mean planting, cultivating, thinning, harvesting, or any other activity undertaken to use forest resources or to improve their quality or productivity;

h. Use of off-road vehicles and motor vehicles;

i. Destruction or alteration of the Conservation Area EXCEPT:

(i) Alteration necessary to construct the mitigation areas and associated improvements proposed to be built by _____, or its successors, and/or assigns, as approved in the mitigation plan approved by the Permit and the certification(s) and/or permit(s) issued by MDE;

(ii) Alteration necessary to ensure the success of the mitigation areas including monitoring, reconstruction, maintenance, or repair of the constructed mitigation areas, as approved by the Corps and MDE;

(iii) Removal of vegetation when approved by the Corps and MDE and conducted for removal of noxious or invasive plants;

[If reference is made to the Permit, or to a mitigation plan approved by the Permit, all exceptions (including regarding buffer areas) must be specifically spelled out in the Permit or plan; also, additional, specific, exceptions may be listed in this paragraph, e.g., fire or wildlife management plans, boardwalks, etc.].

j. Utilizing a non-reporting Nationwide Permit, Regional Permit, or State Programmatic General Permit under Section 404 of the Clean Water Act or state general permits under MDE regulations to impact any aquatic feature on the Property. Notification shall be required to the Corps and MDE for the use of any Nationwide Permit, State Programmatic General Permit, or Regional Permit.

3. Duration and Amendment. The covenants and restrictions listed herein are created pursuant to the Annotated Code of Maryland, Real Property Article § 2-118 and shall run with and bind the Property, and be binding on the Declarant(s), its/their personal representatives, heirs, successors and assigns, unless and until terminated or modified by the Corps, MDE, or other Federal, State, or County agencies which have the legal authority to enforce these covenants and restrictions by regulations, permit, or agreement. The failure of the Corps, MDE, or other such agencies to enforce the provisions of this Declaration shall not be deemed a waiver of any rights created hereunder. After recording, this Declaration may only be amended by a recorded document signed by the Corps, MDE, and Declarant(s). The recorded document, as amended, shall be consistent with the Baltimore District and MDE model conservation restrictions at the time of amendment. Amendment shall be allowed at the discretion of the Corps and MDE, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Baltimore District and MDE mitigation policy at the time of amendment. There shall be no obligation to allow an amendment. The Corps and MDE shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void, or modify this Declaration in whole or in part. This Declaration is intended to survive foreclosure, bankruptcy, condemnation, or judgments affecting the Property. This Declaration shall not be invalid solely because aquatic resources within the Conservation Area are determined not to be waters of the United States or waters of the State.

4. Notice to Government. Any permit application, or request for certification or modification, which may affect the Conservation Area, made to any governmental entity with authority over wetlands or other waters of the United States and/or waters of the State, shall expressly reference and include a copy (with the recording stamp) of this Declaration.

5. Reserved Rights. It is expressly understood and agreed that these restrictive covenants do not grant or convey to members of the general public any rights of ownership, entry or use of the Conservation Area. These restrictive covenants are created solely for the protection of the Property, and for the consideration and values set forth above, and Declarant(s) reserve(s) the ownership of the fee simple estate and all rights appertaining thereto, including without limitation the rights to exclude others and to use the property for all purposes not inconsistent with these restrictive covenants.

6. Monitoring and Maintenance: The permittee, and its/their authorized agents shall have the right to enter and go upon the lands of the Declarant(s) to monitor and manage the Conservation Area to ensure compliance with the Mitigation Site Plan (“Mitigation Site Plan”) and Long-Term Management Plan (“Approved Long-Term Management Plan”) approved in connection with the Permit. This may include, but is not limited to, completing annual monitoring, controlling invasive species, planting native vegetation, repairing signs/fences, and repairing erosion.

7. Compliance Inspections. The Corps, MDE, and its/their authorized agents shall have the right to enter and go upon the lands of Declarant(s), to inspect the Conservation Area and take actions necessary to verify compliance with the approved Mitigation Site Plan, the Approved Long-Term Management Plan, and these restrictive covenants.

8. Enforcement. The Declarant(s) grant(s) to the Corps, the U.S. Department of Justice, and MDE, a discretionary right to enforce these covenants in a judicial action against any person(s) or other entity(ies) violating or attempting to violate these restrictive covenants; provided, however, that no violation of these restrictive covenants shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy, such as civil penalties. Nothing herein shall limit the right of the Corps to modify, suspend, or revoke the Permit, or MDE to modify, suspend, or revoke the certification(s) and/or permit(s).

9. Property Transfers. Declarant(s) shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property and Conservation Area (failure to comply with this paragraph does not impair the validity or enforceability of this Declaration):

NOTICE: This property Subject to Declaration of Restrictive Covenants Recorded at [insert book and page references, county(ies), and date of recording].

Declarant(s) agree(s) to give written notice to the Corps and MDE of the intent to transfer, sell, or convey any interest of the Property, or to amend this Declaration by any other means whatsoever, at least sixty (60) days prior to the date of transfer.

10. Marking of Property. The perimeter of the Conservation Area shall at all times be plainly marked by permanent signs saying, "Protected Natural Area," or by an equivalent, permanent marking system.

11. Consent of Lender and Trustee. Declarant(s) is/are the maker(s) of a note dated _____ secured by a deed of trust dated _____ from the Declarant(s) to _____ as trustees and either of whom may act, recorded in the Clerk's office in Deed Book _____ at page _____, for the benefit of _____ Bank (The "Deed of Trust."). _____, as trustees, join herein for the sole purpose of subordinating the lien, dignity and priority of the Deed of Trust to these Deed Restrictions. _____ Bank joins herein for the sole purpose of consenting to the trustee's actions.

[Note: The Declarant or Permittee must identify all encumbrances (i.e., mortgages, liens, easements, rights of way, leases, etc.), that may affect the Conservation Area and show these encumbrances on Exhibit B to this Declaration. If any encumbrance affects the Conservation Area, then some version of this clause should be included, and the holder of that interest must sign, subordinating its interest to this declaration.]

12. Recording. Within thirty (30) calendar days of execution of these restrictive covenants, the Declarant(s) agree(s) to record this Declaration in the Land Records of the County and provide the Corps and MDE with proof of recordation within thirty (30) calendar days of recordation. A plat depicting the boundaries of the Conservation Area subject to these restrictive covenants shall be recorded in the deed records office for each county in which the Property is situated prior to the recording of these restrictive covenants. The plat(s) is/are recorded at [include book and page references, county(ies), and date].

13. Separability Provision. Should any separable part of this Declaration be held contrary to law, the remainder shall continue in full force and effect.

14. Inaccurate or Fraudulent Information. Should an easement, right or lease on or to the Property not shown on the survey or listed in this Declaration and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then the owners of the Property shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps and MDE or any enforcer of this Declaration shall determine in accordance with the Clean Water Act and/or the Maryland Nontidal Wetlands Act.

15. Eminent Domain. NOTICE TO PARTIES WITH EMINENT DOMAIN AUTHORITY: If the Property is taken in whole or in part through eminent domain, the consequential value of the Conservation Area protected by the Clean Water Act and/or the Maryland Nontidal Wetlands Act is the cost of replacement of the conservation functions, services and values with other property in the same watershed. Exercise of eminent domain by any party ("Condemning Party") to take land held as part of a mitigation site under this Declaration may remove restrictions

that the Declarant(s), the Corps, or MDE intend will protect, in perpetuity, the Conservation Area, and preserve the land serving as compensation for permitted impacts. Where the Condemning Party: (1) intends to take action(s) that will have impacts on the Conservation Area, and (2) is required to obtain a Corps or MDE permit for such impacts, the Corps and MDE have discretion to increase the Condemning Party's wetland and/or stream compensation requirements, as part of the permitting process, in order to account for the loss of functions and values associated with the compensatory mitigation site.

IN WITNESS WHEREOF, the Declarant(s) has/have duly executed this Declaration of Restrictive Covenants the date written above.

IN THE PRESENCE OF:

Declarant(s)

By: _____

[type name of witness under signature line]

[type name of Declarant(s) under signature line]

Its:

**STATE OF MARYLAND
COUNTY OF**

PERSONALLY appeared before me _____, the undersigned witness, and made oath that *he/she* saw the within named _____ [, *by* _____, *its* _____.] sign, seal and as *his/her/its* act and deed, deliver the within named Declaration of Restrictive Covenants; and the *he/she* with the other witness named above witnessed the execution thereof.

[type name of Notary Public under signature line]

SWORN to and subscribed before me

This _____ day of _____, 20__.

NOTARY PUBLIC FOR

My Commission Expires:

IN THE PRESENCE OF:

Trustees/Bank(s)

By: _____

[type name of witness under signature line]

[type name of Trustee/Bank(s) under signature line]

Its:

**STATE OF MARYLAND
COUNTY OF**

PERSONALLY appeared before me _____, the undersigned witness, and made oath that he/she saw the within named _____ [by _____, its _____,] sign, seal and as his/her/its act and deed, deliver the within named Declaration of Restrictive Covenants; and that he/she with the other witness named above witnessed the execution thereof.

[type name of Notary Public under signature line]

SWORN to and subscribed before me

This _____ day of _____, 20__.

NOTARY PUBLIC FOR

My Commission Expires:

I hereby certify this deed was prepared by or under the supervision of _____, an attorney admitted to practice by the Court of Appeals of Maryland.



Appendix D – Expanded Mitigation Site Search

Appendix D
MIDDLE POTOMAC FEDERAL HUC8 SITE SEARCH DETAILS

APPENDIX D, Attachment 1

SITE SEARCH DETAILS

MIDDLE POTOMAC FEDERAL HUC8

The following is a summary of the potential mitigation sites that were identified during the SCMAGLEV mitigation site search, were investigated, and were eliminated. Included with each site are details pertaining the location, size, and type of mitigation activity possible, a description of the site characteristics, and justification for why each site cannot be pursued. The most common criteria that were not met or were areas of concern were “Property Availability”, “Environmental Factors”, and “Within FAA Separation Zone”.

“Property Availability” is applied to property where the landowner has plans for an alternate use for the property, is unwilling to encumber the property with a mitigation easement, does not want to participate for any reason, is unavailable, or unresponsive.

“Environmental Factors” include all factors that make restoration infeasible and/or would result in a low likelihood of success. These factors may include environmental setting (e.g., landscape position, impervious drainage area, site connectivity), scale, site accessibility, and potential for “in-kind” replacement of lost functions.

“Within FAA Separation Zone” refers to FAA Advisory Circular AC 150/5200-33C - Hazardous Wildlife Attractants on or near Airports. The FAA recommends a separation distance of 5,000 or 10,000 feet from wildlife hazard attractants (including wetlands) for airports serving piston-powered aircraft and turbine-powered aircraft, respectively.

Anacostia River Maryland 8-digit Watershed (02140205)

A total of nine (9) potential mitigation sites were identified in the Anacostia River Maryland 8-digit watershed and evaluated further as potential mitigation sites for SCMAGLEV. None of the potential mitigation sites identified within the Anacostia River watershed could be pursued because of lack of landowner interest, planned site development, scale, likelihood for success, site connectivity, site accessibility, potential for “in-kind” replacement of lost functions, and/or other reasons. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided below.

- **Map ID #9 & #49:** Private properties located at the intersection of I-95 and the Inter-County Connector. These large-scale sites are predominantly cleared upland parcels, some cleared wetland, and some hydric soils. These properties have good potential for wetland enhancement; however, these properties are planned for development and there is no landowner interest. These properties were not pursued due to property availability.
- **Map ID #45:** Private property in Beltsville, MD. This is a large-scale site consisting of both cleared and forested land. Extensive hydric soil mapping throughout (over 30 acres); however, there is very little wetland (approximately 2 acres). This site would predominantly be a creation-based restoration project with some stream restoration potential. The property owner was not responsive. This property was not pursued due to property availability.

- **Map ID #16:** Private property in Beltsville, MD. The site is existing forested wetland with potential for stream restoration and wetland enhancement. The site is surrounded by developed area with a high percentage of impervious drainage area. The site has low potential for success and was not pursued due to environmental factors.
- **Map ID #17:** Private property in Beltsville, Maryland. Stream restoration with wetland enhancement potential. The site is forested wetland and access is limited. An inspection of the site concluded that the forested wetland is in good condition with minimal opportunity for enhancement. The site was not pursued due to environmental factors.
- **Map ID #8:** Beltsville Agricultural Research Center in Beltsville, MD. This 6,600-acre federal facility is the location of other mitigation projects. These projects were reviewed for potential expansion and additional areas of the facility were identified. There was no potential for expansion of existing projects. Several areas identified for stream and wetland mitigation projects were unavailable due to current or planned use of those areas for agriculture, solar panels, and other uses or did not have sufficient scale to be viable. A suitable mitigation site could not be identified on the facility. This facility was not pursued further due to property availability and environmental factors.
- **Map ID #32:** Prince George's County property in Riverdale and University Park that contains concrete lined stream channel. This was considered for stream mitigation; however, there is no potential for wetland mitigation. Additionally, due to a high percentage of impervious surface drainage area, this project had low likelihood of success. This property was not pursued due to environmental factors.
- **Map ID #29:** Multiple private properties in Lanham, Maryland. The properties have frontage on Princess Garden Parkway and has potential for development. There is a stream running through a forested corridor that has potential for stream restoration. Mapped hydric soils extend outside of the forested corridor, suggesting potential for wetland restoration. The landowner was unresponsive, and these properties were not pursued due to property availability.
- **Map ID #35:** Public and private property in Landover, Maryland that contains concrete lined stream channels. This was considered for stream mitigation; however, there is no potential for wetland mitigation. Additionally, due to a high percentage of impervious surface drainage area, this project had low likelihood of success. This property was not pursued due to environmental factors.

Middle Potomac-Anacostia-Occoquan HUC8 (02070010)

Consistent with the Nontidal Wetland Mitigation Site Search Requirements (MDE, 2018), the site search was expanded to include the entire Middle Potomac Federal HUC8. A total of forty-five (45) additional sites were identified within the Middle Potomac HUC8 watershed. Of these sites, five (5) potential mitigation sites were identified. Of these, two (2) could not be pursued for SCMAGLEV mitigation (or were not preferred based on site selection criteria) and three (3) mitigation sites were selected. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided below.

- **Map ID #33:** Public and private properties in Hillcrest Heights, Maryland that contain concrete lined stream channel. This was considered for stream mitigation; however, there is

no potential for wetland restoration. Additionally, due to a high percentage of impervious surface drainage area, this project had low likelihood of success. This property was not pursued due to environmental factors.

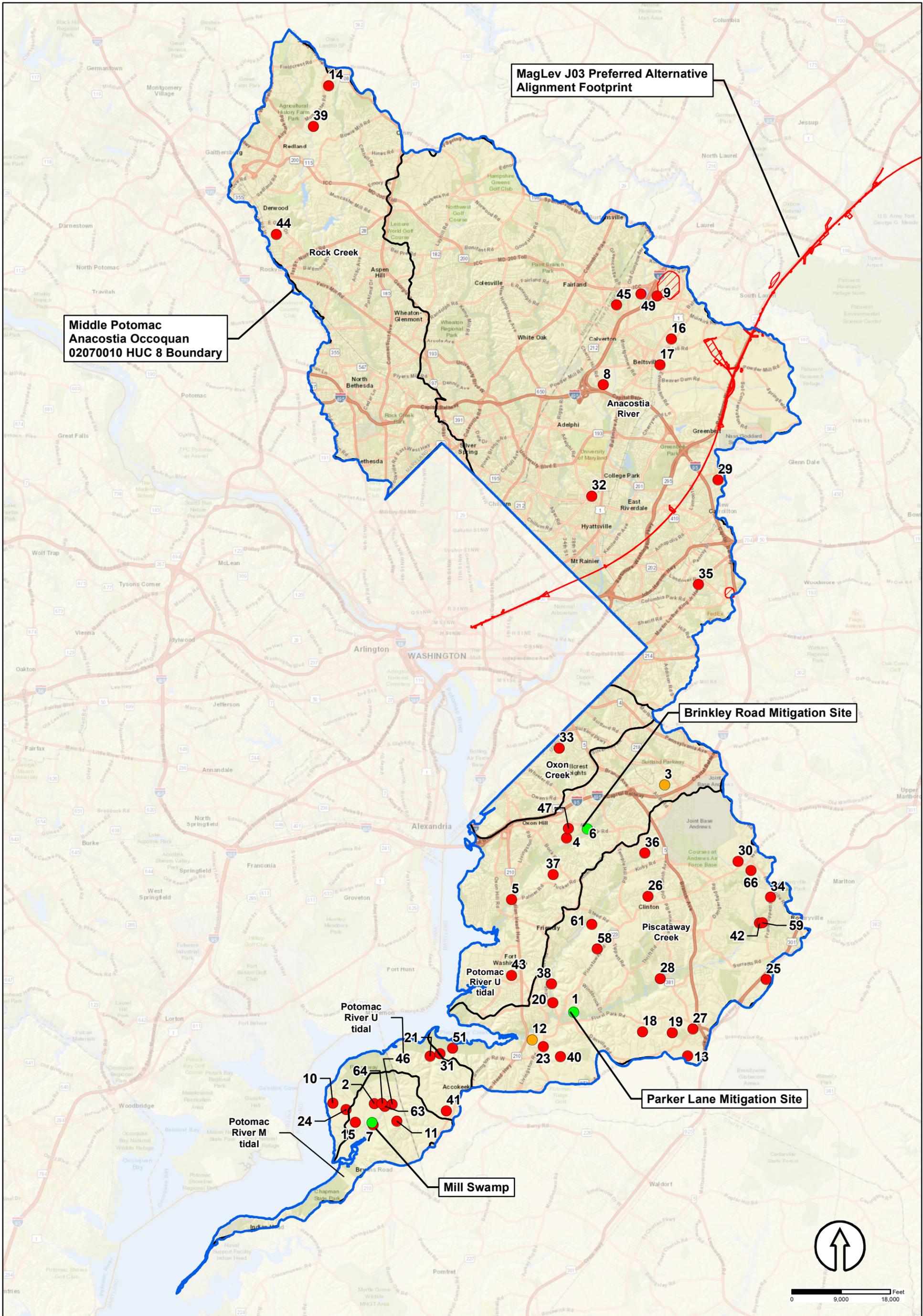
- **Map ID #3:** Private property in Camp Springs, Maryland adjacent to joint Base Andrews. This property has stream and wetland potential; however, it is located within 10,000 feet of the runway at Joint Base Andrews. The site was not pursued due to being within the FAA separation zone.
- **Map ID #47:** Private property located in Fort Washington, Maryland. The site is currently in agricultural production and has degraded stream resources. Due to topography, the site has little wetland restoration potential. The site is predominantly upland, the site is planned for development, and there is no landowner interest. This property was not pursued due to property availability.
- **Map ID #4:** Private property in Fort Washington, Maryland. The site has both stream and wetland potential; however, the low-lying areas of the site are currently in use and the property owner is not interested in using these areas for wetland restoration. Without wetland restoration, this site is not viable for SCMAGLEV mitigation. This property was not pursued due to property availability.
- **Map ID #37:** Private property in Fort Washington, Maryland. The site is forested and has extensive stream resources, all in need of restoration. There is no opportunity for wetland restoration. Without wetland restoration, this site is not viable for SCMAGLEV mitigation. This property was not pursued due to environmental factors.
- **Map ID #36:** The site of the ongoing Tinkers Creek Stream Restoration Project in Temple Hills, Maryland. This site consists of public and private property and was evaluated for expansion. There was no opportunity to expand for stream or wetland mitigation and the site was not pursued due to environmental factors.
- **Map ID #30:** The site of the Piscataway Creek Mitigation Site in Clinton, Maryland. This site consists of private property currently being used to provide wetland mitigation and was evaluated for expansion. Some stream restoration potential exists on adjacent properties; however, wetland restoration is limited by topography. There was no opportunity to expand for wetland mitigation and the site was not pursued due to environmental factors.
- **Map ID #66:** Private property located in Clinton, Maryland. This site has stream and wetland restoration potential; however, the site is under development and there is no landowner interest. This property was not pursued due to property availability.
- **Map ID #5:** The site of the ongoing Henson Creek Restoration Project in Fort Washington, Maryland. This site consists of private property and was evaluated for expansion to adjacent public and private property. There was no opportunity to expand for stream or wetland mitigation and the site was not pursued due to environmental factors.
- **Map ID #34:** Public (State Park) property in Upper Marlboro, Maryland. The State Park property is forested and has stream resources that appear to be degraded. There is a dam that has potential for removal. There is little wetland restoration opportunity and landowner coordination has not been advanced. The site was not pursued due to environmental factors.

- **Map ID #26:** This site includes public and private property in Clinton, Maryland. This site has the potential for a large-scale stream restoration project with some wetland restoration potential. This site requires participation of multiple private property owners which was not feasible in the timeframe required for the SCMAGLEV project. The site was not pursued due to property availability.
- **Map ID #61:** Private property in Clinton, Maryland. The site is partially cleared and partially forested. The cleared areas are in active agricultural use. The property is adjacent to Piscataway Creek; however, there is very little stream length on the property. Low-lying areas are within and adjacent to the floodplain, suggesting this site has good potential for wetland restoration in these areas; however, these areas are not expansive and make up a small percentage of the total site area. Without viable stream restoration, this site is not viable for SCMAGLEV mitigation and was not pursued due to environmental factors.
- **Map ID #58:** Private property in Clinton, Maryland. The property is mostly cleared and is in agricultural production. Two straightened stream channels drain agricultural areas. The site has the potential for both stream and wetland restoration. The site also has potential for development and many surrounding areas have been subject to residential development. The property owner was not responsive. This property was not pursued due to property availability.
- **Map ID #42:** Private property in Cheltenham, Maryland. The property has stream and wetland resources with potential for stream and wetland restoration. The property owner was not responsive, and the site was not pursued due to property availability.
- **Map ID #59:** Private properties in Upper Marlboro, Maryland. These properties were identified for stream restoration potential and are largely forested. There is minimal wetland restoration potential. This site was not pursued because of environmental factors.
- **Map ID #43:** Private property in Fort Washington, Maryland. This site is partially forested and partially open with stream and wetland resources throughout. The site has stream restoration and wetland enhancement potential. The property owner was not responsive, and this site was not pursued due to property availability.
- **Map ID #38:** Private properties in Clinton, Maryland. Residential use with large open fields that appear to have historically been in agricultural production that are within and adjacent to the 100-yr floodplain. There is some stream and wetland potential; however, the combined area of the parcels is less than 4 acres. Due to the scale, this site is not suitable for SCMAGLEV mitigation. The site was not pursued due to environmental factors.
- **Map ID #25 & 28:** Public properties owned by MNCPPC identified for stream restoration. These properties are forested. These sites were not pursued due to environmental factors and property availability.
- **Map ID #20, 21, & 23:** Private property in Brandywine, Maryland. This site has the potential for a large-scale stream restoration project; however, it has little wetland restoration potential. The site was not pursued due to environmental factors.
- **Map ID #18:** Private property located in Brandywine, Maryland. The property is partially cleared and partially forested. The cleared area is upland, is currently in agricultural production, and slopes steeply to the adjacent forested stream valley. The stream valley forest appears to

be in good condition with some potential for stream restoration. Due to the elevation of the farm fields compared to the stream valley, wetland restoration is not feasible. This site was not pursued due to environmental factors.

- **Map ID #19:** Private property in Brandywine, Maryland. This property is large and mostly forested with some cleared areas that appear to have been previously farmed. Some stream resources include low and high order streams on site. The property owner was not responsive, and this site was not pursued due to property availability.
- **Map ID #27:** Private property in Brandywine, Maryland. This property is small (less than 10 acres) and is mostly forested. The property is planned for development and the property owner is not interested. The site was not pursued due to property availability and environmental factors.
- **Map ID #13:** Private property in Brandywine, Maryland. The site is an active surface mining facility. The landowner is not interested in and this site was not pursued due to property availability.
- **Map ID #12:** Private property in Clinton, Maryland. The property is in agricultural production and has good potential for wetland restoration. Piscataway Creek is located within the forested wetlands adjacent to the farmed fields. Both Piscataway Creek and its forested floodplain are in good condition in this area and there is little potential for stream restoration. This site was not pursued because of environmental factors.
- **Map ID #40:** Private property in Clinton, Maryland. The site is partially forested and partially cleared. There are stream resources present that appear to need restoration. Some existing wetland areas could be enhanced or expanded. The property owner was not responsive, and the site was not pursued due to property availability.
- **Map ID #46:** Private Property in Bryans Road, Maryland. The property is mostly cleared has both stream and wetland resources. The landowner is unresponsive. This site was not pursued because of property availability.
- **Map ID #10:** Private Property in Bryans Road Maryland. The property is forested. The site was not pursued because of environmental factors.
- **Map ID #2:** Private Property in Bryans Road, Maryland. The property is mostly cleared and in active agricultural production. There are mapped hydric soils; however, there are no stream resources. The site is also located at the top of a local drainage divide and may be challenged from a hydrology perspective. This site was not pursued because of environmental factors.
- **Map ID #24, 63 & 64:** Private properties in Bryans Road, Maryland. These sites have the potential for stream restoration; however, they have little wetland restoration potential. The wetlands surrounding the stream appear to be in good condition. These sites were not pursued due to environmental factors.
- **Map ID #41:** Private property in Accokeek, Maryland formerly used for agricultural production. The site is surrounded by mature forest and is naturally becoming reforested. The site has low potential for stream and wetland functional improvement. The site was not pursued due to environmental factors.

- **Map ID #11 & 15:** Private properties in Bryans Road, Maryland. Both sites are primarily forested with some stream restoration potential. Cleared areas are yards associated with site residences. Little potential for wetland restoration on both sites. The sites were not pursued due to environmental factors.
- **Map ID #21, 31, & 51:** Private properties on the Potomac River in Accokeek, Maryland. These sites are cleared and in agricultural production. These sites have several streams that may need restoration. These sites have potential for development. The property owners were not responsive, and the sites were not pursued due to property availability.



Middle Potomac Anacostia Occoquan 02070010 HUC 8 Boundary

MagLev J03 Preferred Alternative Alignment Footprint

Brinkley Road Mitigation Site

Parker Lane Mitigation Site

Mill Swamp

- Middle Potomac Anacostia Occoquan HUC 8 Boundary
- MD 8 Digit Watershed

- MagLev Sites (3)
- Viable Site - Not Selected (2)
- Site Not Viable (50)

**MAGLEV MITIGATION SITE SEARCH
MIDDLE POTOMAC ANACOSTIA OCCOQUAN
(02070010) HUC8 WATERSHED**

Baltimore Washington Rapid Rail, LLC
6 South Gay Street, Baltimore, MD



4201 Northview Drive, Suite 202
Bowie, MD 21401
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ATTACHMENT 2
PATUXENT HUC8 SITE SEARCH DETAILS

APPENDIX D, ATTACHMENT 2 MITIGATION SITE SEARCH DETAILS PATUXENT FEDERAL HUC8

The following is a summary of the potential mitigation sites that were identified, investigated, and eliminated during the SCMAGLEV mitigation site search. Included with each site are details pertaining the location, size and type of mitigation activity possible, a description of the site characteristics, and justification for why each site cannot be pursued. The most common criteria that were not met or were areas of concern were “Property Availability”, “Environmental Factors”, and “Within FAA Separation Zone”.

“Property Availability” is applied to properties where the landowner had plans for an alternate use for the property, was unwilling to encumber the property with a mitigation easement, did not want to participate for any reason, or was unavailable or unresponsive. Potential mitigation sites were also eliminated if they were already encumbered by another conservation easement or were under other protected status (e.g., public parks).

“Environmental Factors” include all factors that make restoration infeasible and/or would result in a low likelihood of success. These factors may include environmental setting (e.g., landscape position, impervious drainage area, site connectivity), scale, site accessibility, and potential for “in-kind” replacement of lost functions.

“Within FAA Separation Zone” refers to FAA Advisory Circular AC 150/5200-33C - Hazardous Wildlife Attractants on or near Airports. The FAA recommends a separation distance of 5,000 or 10,000 feet from wildlife hazard attractants (including wetlands) for airports serving piston-powered aircraft and turbine-powered aircraft, respectively.

Little Patuxent River Maryland 8-digit Watershed

A total of nine (9) potential mitigation sites were identified in the Little Patuxent River Maryland 8-digit watershed and evaluated further as potential mitigation sites for SCMAGLEV. None of the potential mitigation sites identified within the Little Patuxent River watershed could be pursued because of lack of landowner interest, planned site development, scale, likelihood for success, site connectivity, site accessibility, potential for “in-kind” replacement of lost functions, and/or other reasons. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided below.

- **Map ID #12:** Located southwest of the MD-3 and MD-32 intersection is a large site under active agricultural production. Towsers Branch, a tributary to the Little Patuxent River, runs along the western property boundary and an unnamed tributary drains the central portion of the site. The riparian areas of both streams are wooded. Hydric soils are also present along the valley bottoms. This site has good potential for stream and wetland mitigation with connections to remnant forested habitats offsite in an otherwise heavily developed area. The site is under long-term lease by Anne Arundel County from the United States Navy and is operated as the MD Sunrise Farm. This property is unavailable for mitigation and was not pursued due to property availability.
- **Map ID #33, #73 and #77:** Properties located east of the I-295 (Baltimore-Washington Parkway) and MD-32 intersection that contain several cleared areas with ponds, streams, and

wetlands visible on aerial photographs. This site is also adjacent the Patuxent Wildlife Refuge and is located in close proximity to the SCMAGLEV alignment and proposed wetland and waterway impacts. However, all of the potential mitigation sites are either owned by the US Army Fort Meade, US Fish and Wildlife Service, are covered by forest conservation easements, or are in close proximity to Tipton Airport. These properties were not pursued due to property availability and/or were within a FAA Separation Zone.

- **Map ID #52 and #76:** Located north of the MD-450 and MD-3 intersection in Odenton, is a mosaic of open, forested, and partially forested parcels that straddle the Patuxent River. The Patuxent River floodplain is dominated by forested wetlands and underlain with hydric soils throughout. Topography within this area is very steep with upland areas typically 30 feet or more above the floodplain. Some wetland pockets are present within these uplands but with the steep topography, connectivity with the rest of the aquatic systems would be problematic. In addition, the majority land owners within this area are real estate development firms with long term development plans for the properties. These sites were not pursued due to property availability and environmental factors.
- **Map ID #70:** Located east of Sykesville Road between Old Frederick Road and I-70 (Baltimore National Pike) in Marriottsville, are several large parcels with a mix of forest, wetlands, and open space that straddle the headwaters of the Little Patuxent River. However, these parcels are either part of the Alpha Ridge Park, the Alpha Ridge Landfill, or covered by forest conservation easements. These properties were not pursued due to property availability and environmental factors.
- **Map ID #71:** Located north of the MD-32 and I-95 intersection is a large parcel with a mix of open areas, forests, and a small stream. Hydric soils are present within the forested lowlands. This site is owned by the Federal Communications Commission and was not pursued due to property availability and environmental factors.
- **Map ID #72:** Located southeast of the MD-175 and I-95 intersection series of parcels with a mix of forest and open space. Dorsey Run runs through the parcel, the riparian area is forested and underlain with hydric soils. The open areas have upland soils but could be graded to create wetlands. Although Dorsey Run connects the site upstream and downstream to other forested habitats, the site itself is bordered by two major roadways and an industrial park. The upland parcels have been placed in an open space conservation easement with Howard County. These properties were not pursued due to property availability and environmental factors.

Patuxent River Upper Maryland 8-digit Watershed

A total of ten (10) potential mitigation sites were identified in the Patuxent River Upper Maryland 8-digit watershed and evaluated further as potential mitigation sites for SCMAGLEV. None of the potential mitigation sites identified within the Little Patuxent River watershed could be pursued because of lack of landowner interest, planned site development, scale, likelihood for success, site connectivity, site accessibility, potential for “in-kind” replacement of lost functions, and/or other reasons. A summary of site search information for each potential mitigation, including the reason(s) the site could not be pursued, is provided below.

- **Map ID #10:** Located near the intersection of Elmer F Hagner Lane and Wayson Road in Davidsonville, is an approximately 50-acre parcel of open ground dissected by Davidsonville Branch. This parcel is owned by the Anne Arundel County Department of Public works. This site was not pursued due to property availability.
- **Map ID #11:** Located adjacent site #54 is another large open lot, formerly in agricultural production. Portions of the lot are already in forest conservation easement and the landowner was not interested in placing more of their property in conservation. This site was eliminated due to property availability.
- **Map ID #14:** Located near the intersection of US-301 and Mill Branch Road are several open parcels that are adjacent forested wetland systems owned by MNCPPC. Landowners were not responsive to requests for information. This site was eliminated due to property availability.
- **Map ID #32:** Open agricultural land located south of the US-50/Davidsonville Road interchange. Fields include hydric soils, an unnamed tributary to the Patuxent River runs through the site. Although the site has potential for mitigation, it is covered by a Maryland Agricultural Land Preservation Foundation (MALPF) easement. This site was not pursued due to property availability.
- **Map ID #54 and #63:** Located near the intersection of MD-214 and Patuxent River Road are several large farm parcels. Most site soils are upland and wetland restoration would have a low likelihood for success. These sites were not pursued for environmental factors.
- **Map ID #69:** Located along Queen Anne Bridge Road north of Site #10 is a large open parcel with wetland and forested riparian areas around the fringe. The site is under active agricultural production and the owner was not interested in placing a conservation easement on the property. This site was not pursued due to property availability.
- **Map ID #74:** Located east of Bowie State University, this site was identified by the USFWS as a priority restoration site. However, this site is entirely forested and was not pursued due to environmental factors.
- **Map ID #75:** East of Site #74 is a large open parcel surrounded by forested habitat owned either by the US Federal Government or Prince George's County. However, the site is upland with no access to water for mitigation purposes and was not pursued for environmental factors.
- **Map ID #78:** Several parcels along Meyers Station Road were brought to our attention by US FWS as priority restoration sites. Although they do border the Patuxent Wildlife Refuge and the Patuxent River, remaining privately owned parcels are located on a terrace approximately 30 feet above the adjacent wetland making them poor candidates for restoration. These sites were not pursued for environmental factors.

Patuxent Federal HUC8 (02060006)

Consistent with the Nontidal Wetland Mitigation Site Search Requirements (MDE, 2018), the site search was expanded to include the entire Patuxent Federal HUC8. A total of 70 additional sites were identified within the Patuxent HUC8 watershed. To evaluate potential mitigation sites to replace the quantity and quality of functions performed by the wetlands impacted by the SCMAGLEV project,

the Patuxent HUC8 watershed was divided by physiographic region (Coastal Plain and Piedmont; by Regions, Districts, and Areas identified on the Physiographic Map of Maryland¹); and by the Maryland 8-digits watersheds within the larger Patuxent HUC8.

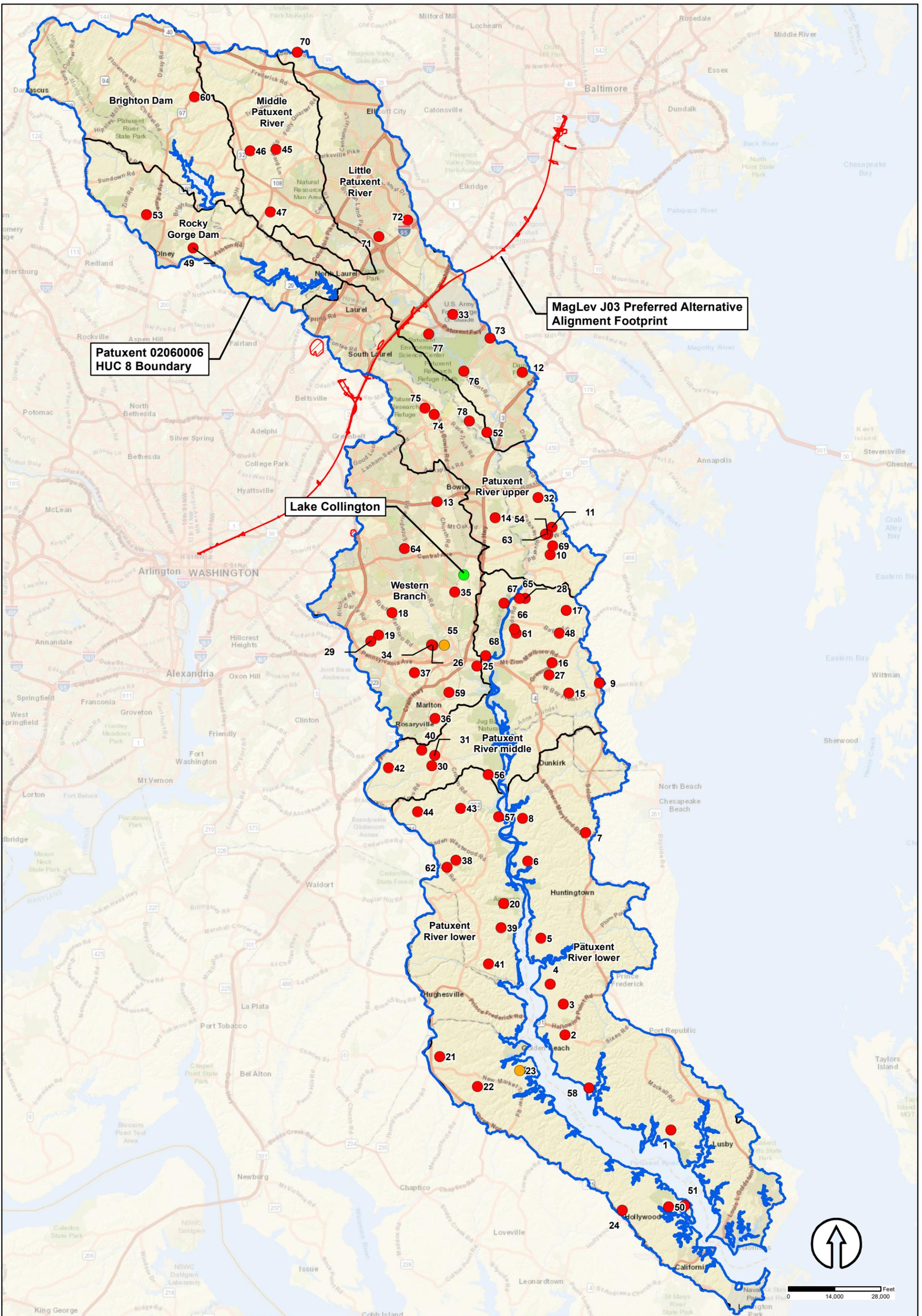
Since the Piedmont physiographic region is markedly different than the Coastal Plain, where the proposed impacts would occur, the six (6) potential mitigation sites located within the Piedmont were eliminated from further consideration.

Within the Coastal Plain, the majority of the proposed impacts will occur within the Western Shores Uplands Region/Glen Burnie Rolling Upland District/Upper Patuxent Valley Area. In this Area, the Patuxent and the Little Patuxent flow in well-defined flood plains and exhibit numerous meanders within a landscape of gently rolling uplands. Similar landforms are also located in the Middle Patuxent Valley Area/Crownsville Upland District to the south and east within the Patuxent River Upper and Western Branch Maryland 8-digit watersheds. Sites within these Districts would be preferred as they would be more likely to mimic the lost functions of the impacted wetlands. Although landforms change to steeper, less gently rolling topography in the adjacent Prince Frederick Knobby Upland or the Waldorf Upland Plain Districts, the sand, gravel, silts, and clays of the lithologies are more similar to the impacted area compared to sites further afield in the Patuxent Estuary and Lowlands District with its flat-bottomed valley flanked with fluvial-estuarine-marine terraces and sediments. Potential mitigation sites within similar landscape settings as the proposed impacts (i.e., floodplain systems on alluvial soils) can be found in the Prince Frederick and Waldorf Plain but are less likely to occur in the Patuxent Estuary and Lowlands Districts. For this reason, and proximity to impacts, sites within the Western Branch (14) and Patuxent River Middle (16) watersheds were preferred over potential sites within the Patuxent River Lower (24) sites. The 24 sites within GreenVest's mitigation site database within the Patuxent River Lower watershed were not pursued due to environmental factors. Additionally, the sites within the Patuxent River Middle were located more than 10 miles from the area of impact. Once a viable mitigation site (Lake Collington) was identified within 10 miles from the impact area, sites further from the area of impact were dropped from consideration. Only two (2) sites were located within the Western Branch watershed and closer to the impact area than the Lake Collington site.

- **Map ID #13:** Near the intersection of US-50 and Church Road are several open parcels that were investigated for mitigation. However, they are all immediately adjacent Freeway Airport and were dropped from further consideration for being within the FAA Separation Zone.
- **Map ID #64:** Located northeast of the intersection of MD-214 and MD-193 is a 100+ acre parcel that abuts the Western Branch Stream Valley Park. Half of the parcel is in active agricultural production; half appears to be fallow. Moderate to steep slopes and lack of access to water make this site not suited to mitigation for environmental factors.

Additional site search details for the Patuxent HUC8, including sites located in the Patuxent River Middle and Patuxent River Lower Maryland 8-digit watersheds, is available upon request.

¹ Physiographic Map of Maryland (scale 1:250,000). MDPHYS2003.2, published September 2008. Available online at: http://www.mgs.md.gov/geology/physiographic_map.html



Patuxent 02060006
HUC 8 Boundary

MagLev J03 Preferred Alternative
Alignment Footprint

Lake Collington

- Patuxent HUC8 Boundary
- MD 8 Digit Watershed
- MagLev Site (1)
- Viable Site - Not Selected (2)
- Site Not Viable (76)

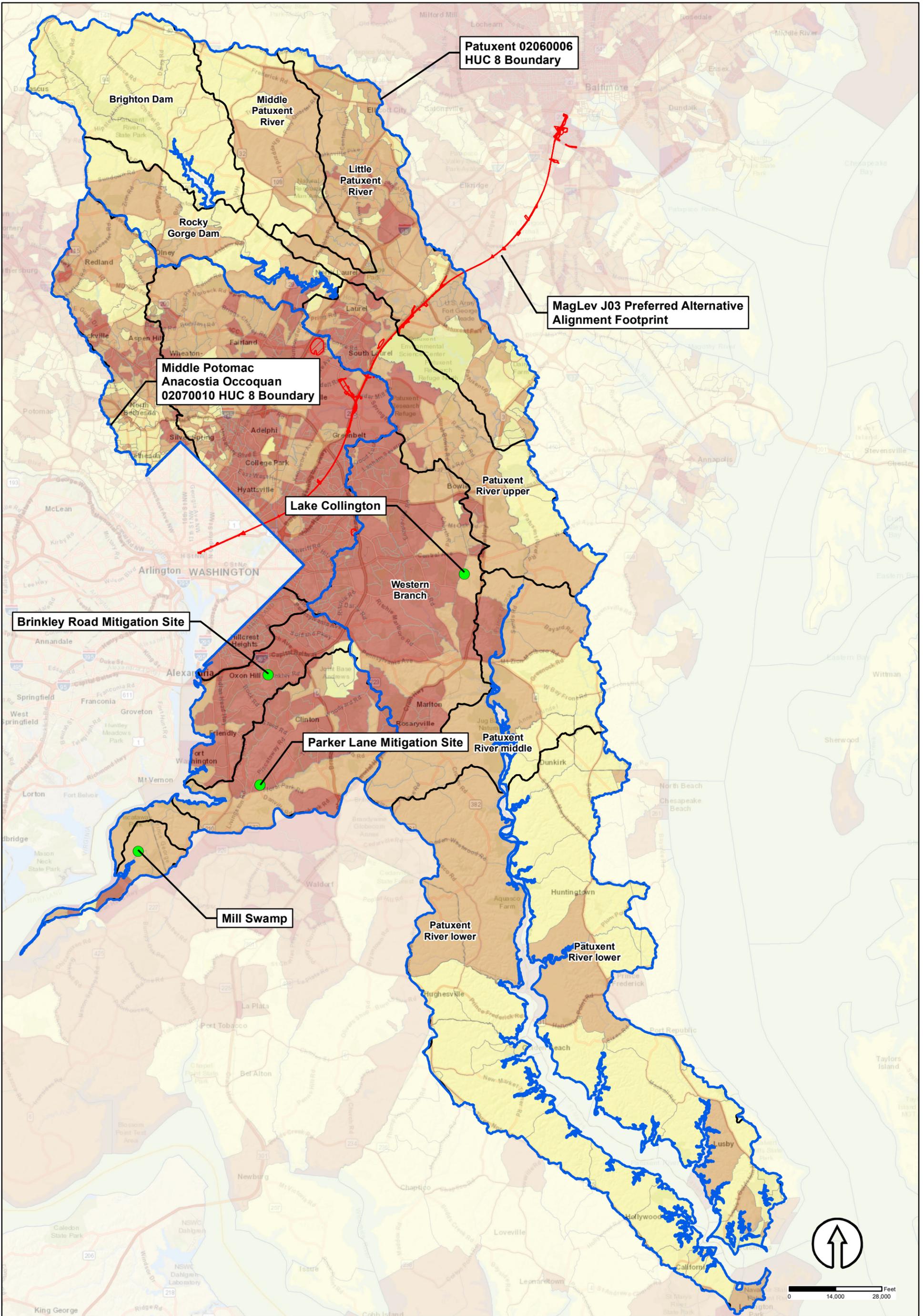
**MAGLEV MITIGATION SITE SEARCH
PATUXENT (02060006) HUC8 WATERSHED**

Baltimore Washington Rapid Rail, LLC
6 South Gay Street, Baltimore, MD



4201 Northview Drive, Suite 202
Bowie, MD 21401
410.987.5500
www.greenvestus.com

ATTACHMENT 3
DEMOGRAPHIC INDEX MAP



Watershed Boundary
 ● MagLev Site (4)
 MD 8 Digit Watershed
Demographic Index
 Low (0 - 33 Percentile)
 Medium (33 - 66 Percentile)
 High (66 - 100 Percentile)

**MAGLEV MITIGATION SITE SEARCH
DEMOGRAPHIC MAP**

Baltimore Washington Rapid Rail, LLC
6 South Gay Street, Baltimore, MD



4201 Northview Drive, Suite 202
Bowie, MD 21401
410.987.5500
www.greenvestus.com



**Appendix E – Additional Agency
Correspondence for
PRM Sites**



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

January 14, 2021

Mr. Zachary Tyszkiewicz
GreenVest, LLC
4201 Northview Drive
Suite 202
Bowie, MD 20716

RE: Environmental Review for 3601 Brinkley Road, Temple Hills: Brinkley Road Mitigation and Henson Creek Stormwater Management Projects, Prince George's County, Maryland.

Dear Mr. Tyszkiewicz:

The Wildlife and Heritage Service has determined that there are no official State or Federal records for listed plant or animal species within the delineated area shown on the map provided. As a result, we have no specific concerns regarding potential impacts or recommendations for protection measures at this time. Please let us know however if the limits of proposed disturbance or overall site boundaries change and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2020.1923.pg



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

February 9th, 2021

21-MIS-098

Zachary Tyszkiewicz
GreenVest LLC
4201 Northview Dr., Suite 202
Bowie, MD 20716

Subject: Fisheries Scoping Information for the Former Golfzilla Driving Range Stream and Wetland Restoration Site
Temple Hills, Prince George's County, Maryland

Dear Mr. Tyszkiewicz;

The above referenced project site has been reviewed to determine fisheries species near the proposed project areas. The project proposes to perform a stream and wetland restoration and install stormwater management at the former Golfzilla Driving Range site in Temple Hills, Maryland.

Located on the project site is Henson Creek which is classified as a Use I stream. For any in-stream work proposed, no work should be allowed from March 1st through June 15th of any given year to protect any spawning fish. The Department would ask that the applicant strictly adhere to the approved sediment and erosion control plan during all construction activities.

Species documented by our Maryland Biological Stream Survey in this and other nearby streams can be accessed via the MDDNR web page at <http://streamhealth.maryland.gov>.

Please note that this fisheries review is for scoping purposes only and does not constitute a full environmental review by the Department of Natural Resources Environmental Review Program. Once a final permit application has been submitted with a full set of plans to MDE, a determination will be made if further review by the MDDNR Environmental Review Program is warranted.

If you have any further questions, please feel free to contact me at 410 260-8736.

Sincerely;

Christopher Aadland
Environmental Review Program



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

February 10th, 2021

21-MIS-096

Zachary Tyszkiewicz
GreenVest LLC
4201 Northview Dr., Suite 202
Bowie, MD 20716

Subject: Fisheries Scoping Information for the Lake Collington Stream and Wetland Mitigation Project
Upper Marlboro, Prince George's County, Maryland

Dear Mr. Tyszkiewicz;

The above referenced project site has been reviewed to determine fisheries species near the proposed project areas. The project proposes to perform a stream and wetland restoration at the Lake Collington Stream and Wetland Mitigation Project site.

This project looks like it will impact Collington Branch and an unnamed tributary to Collington Branch which are which are classified as Use I streams. For any proposed in-stream work, no work should be allowed from March 1st through June 15th of any given year to protect any spawning fish. In addition, the entire site is located within a Sensitive Species Project Review Area so the MDDNR Wildlife & heritage Service should be contacted for an RT&E comments they may have. The Department would ask that the applicant strictly adhere to the approved sediment and erosion control plan during all construction activities.

Species documented by our Maryland Biological Stream Survey in this and other nearby streams can be accessed via the MDDNR web page at <http://streamhealth.maryland.gov>.

Please note that this fisheries review is for scoping purposes only and does not constitute a full environmental review by the Department of Natural Resources Environmental Review Program. Once a final permit application has been submitted with a full set of plans to MDE, a determination will be made if further review by the MDDNR Environmental Review Program is warranted.

If you have any further questions, please feel free to contact me at 410 260-8736.

Sincerely;

Christopher Aadland
Environmental Review Program



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

February 10th, 2021

21-MIS-095

Zachary Tyszkiewicz
GreenVest LLC
4201 Northview Dr., Suite 202
Bowie, MD 20716

Subject: Fisheries Scoping Information for the Mill Swamp Expansion Stream and Wetland Restoration Project
Charles County, Maryland

Dear Mr. Tyszkiewicz;

The above referenced project site has been reviewed to determine fisheries species near the proposed project areas. The project proposes to perform a stream and wetland restoration Mill Swamp Creek stream corridor.

This project looks like it will impact Mill Swamp and an unnamed tributary to Mill Swamp which are classified as Use I streams with records of yellow perch nearby. For any proposed in-stream work, no work should be allowed from February 15th through June 15th of any given year to protect any spawning fish including anadromous species. The Department would ask that the applicant strictly adhere to the approved sediment and erosion control plan during all construction activities.

Species documented by our Maryland Biological Stream Survey in this and other nearby streams can be accessed via the MDDNR web page at <http://streamhealth.maryland.gov>.

Please note that this fisheries review is for scoping purposes only and does not constitute a full environmental review by the Department of Natural Resources Environmental Review Program. Once a final permit application has been submitted with a full set of plans to MDE, a determination will be made if further review by the MDDNR Environmental Review Program is warranted.

If you have any further questions, please feel free to contact me at 410 260-8736.

Sincerely;

Christopher Aadland
Environmental Review Program



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

February 10th, 2021

21-MIS-097

Zachary Tyszkiewicz
GreenVest LLC
4201 Northview Dr., Suite 202
Bowie, MD 20716

Subject: Fisheries Scoping Information for the Parker Five Stream and Wetland Restoration
Clinton, Prince George's County, Maryland

Dear Mr. Tyszkiewicz;

The above referenced project site has been reviewed to determine fisheries species near the proposed project areas. The project proposes to perform a stream and wetland restoration at the Parker Five Stream and Wetland Restoration Project site.

This project looks like it will impact several agricultural ditches that drain into Piscataway Creek is classified as a Use I stream. For any proposed in-stream work, no work should be allowed from March 1st through June 15th of any given year to protect any spawning fish. The Department would ask that the applicant strictly adhere to the approved sediment and erosion control plan during all construction activities.

Species documented by our Maryland Biological Stream Survey in this and other nearby streams can be accessed via the MDDNR web page at <http://streamhealth.maryland.gov>.

Please note that this fisheries review is for scoping purposes only and does not constitute a full environmental review by the Department of Natural Resources Environmental Review Program. Once a final permit application has been submitted with a full set of plans to MDE, a determination will be made if further review by the MDDNR Environmental Review Program is warranted.

If you have any further questions, please feel free to contact me at 410 260-8736.

Sincerely;

Christopher Aadland
Environmental Review Program

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November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

RECEIVED
NOV 25 2020

BY: _____

Dear Ms. Cole:

GreenVest, LLC is requesting any information you may have regarding state rare, threatened and/or endangered plant or animal species within or near the former Golfzilla Driving Range located at 3601 Brinkley Road in Temple Hills, Maryland (See attached USGS Map). The former driving range property is proposed for redevelopment for stream and wetland restoration and stormwater management. The proposed projects are located on a single parcel and are referred to as the **Brinkley Road Mitigation Project** and the **Henson Creek Stormwater Management Project**. These projects are collectively referred to herein as “Project”. The Project area is in Prince George’s County and can be located on the USGS 7.5-minute Topographic Map – Anacostia quadrangle. The property is identified in land records as Map 97, Grid B4, and Parcel 139.

The Project is intended to provide stream and wetland mitigation and stormwater management. The Project includes restoration of Henson Creek, the restoration/creation of unnamed tributaries to Henson Creek, wetland creation, wetland enhancement, wetland preservation, impervious surface removal and construction of a stormwater management pond (See attached Concept Plan). The primary objectives of the Project are to restore stream and wetland functions through increased floodplain connectivity, stream stabilization, restoring wetland hydrology, establishment of native wetland plants, improving stormwater management, and creating opportunities for ecological uplift and nutrient processing.

The Project is located within the privately-owned property with forest, recreation, and wetland land use areas. Based on historical aerial dating back to 1963, the land uses throughout the project area have not changed over the past 57 years, although structures related to the driving range appear to have been modified or removed. As part of the Project, impervious surface removal is proposed in order to install a stormwater management pond and create new wetland areas.

GreenVest searched Maryland’s Environmental Resources and Land Information Network (MERLIN) data layers for Maryland Inventory of Historic Properties, National Register of Historic Places, and MHT Preservation Easements. None of these features were identified on the Project property.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz
Zachary Tyszkiewicz

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.
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November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

RECEIVED
NOV 25 2020

BY: _____

Dear Ms. Cole:

GreenVest, LLC. is requesting any information you may have regarding historic or cultural resources within the proposed Mill Swamp Expansion Stream and Wetland Restoration Project (Project) near Fenwick Road, Maryland (See attached USGS Map). The project area lies within Charles County and can be located on the Mount Vernon USGS Topographic quarter quadrangle map.

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration, and preservation of aquatic resources in the Mill Swamp Creek stream corridor. The Project area adjoins another mitigation site currently under development for the Maryland Department of Transportation (MDOT). Together these sites will create a large contiguous corridor of restored streams and wetlands. For reference, materials for the adjacent restoration project were submitted by Sarah Roberts of BioHabitats on June 12, 2020.

The proposed project includes restoration of Mill Swamp Creek, multiple unnamed tributaries to Mill Swamp Creek, wetland creation, wetland enhancement, and wetland preservation (See attached Concept Plan). The primary objectives of the Project are to increase overbank flows, preserve and restore wetland hydrology, and to reduce erosion and sedimentation.

The project area includes seven (7) privately-owned parcels in Bryans Road that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

- William & Tina Tisdell, 6570 Ward Place, Map 5, Grid 4, Parcel 38 (Concept Plan ID #2)
- Jerimiah S. & Audrey E. Norris, 6555 Fenwick Road, Map 5, Grid 5, Parcel 360 (Concept Plan ID #3)
- Jerimiah S. & Audrey E. Norris, Tract 5-A S/S Fenwick Road W. Rt 227, Map 5, Grid 5, Parcel 497 (Concept Plan ID #4)
- Kyle J. & Casey A. Tippet, 6605 Fenwick Road, Map 5, Grid 5, Parcel 498 (Concept Plan ID #5)
- Liki Yin, 6590 Ward Place, Map 5, Grid 5, Parcel 356 (Concept Plan ID #6)
- David J. & Traci A. Norris, Old Simms Mill Road, Map 5, Grid 5, Parcel 174 (Concept Plan ID #7)
- David J. & Traci A. Norris, 2093 Marshall Hall Road, Map 5, Grid 5, Parcel 31 (Concept Plan ID # 8)

The seven project parcels contain upland and wetland forest and open land in active agricultural production (row crops and hay). Based on historical aerial dating back to 1957, land use is generally unchanged with some formerly farmed areas becoming reforested and the construction of several residential dwellings. All buildings are offset from the stream and wetland mitigation areas and are not included in the project area. No buildings or structures will be constructed, demolished, or modified within the scope of this mitigation project.

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.

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November 25, 2020

Ms. Beth Cole
Maryland Historical Trust – Project Review
100 Community Place
Crownsville, MD 21032

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NOV 25 2020

Dear Ms. Cole:

BY: _____

GreenVest, LLC is requesting any information you may have regarding historic or cultural resources located within the proposed Lake Collington Stream and Wetland Mitigation Project (Project) near Commerce Court in Collington Trade Center in Upper Marlboro, Prince George's County, Maryland (See attached USGS Map).

The Project is intended to provide stream and wetland mitigation credits through the creation, restoration and preservation of aquatic resources in the Collington Branch stream corridor. The proposed project includes restoration of multiple unnamed tributaries to Collington Branch, stream and wetland creation in the footprint of Lake Collington, and wetland preservation (See attached Concept Plan). The primary objectives of the Project are to improve stream and wetland function by improving bank and channel stability, enhancing in-stream habitat, preserving and restoring wetland hydrology, and reducing erosion and sedimentation.

The Project includes five (5) privately-owned parcels that are identified below and are depicted in the enclosed Conceptual Mitigation Plan.

- Lake Collington LLC, Leeland Road, Map 77, Grid B1, Parcel 41 (Concept Plan ID #6)
- Earnest D. Maier Jr. & Alvin R. et al., 410 S. Church Road, Map77, Grid A1, Parcel 23 (Concept Plan ID #8)
- Florida on the Potomac LLC, 14700 Leeland Road, Map 77, Grid A2, Parcel 24 (Concept Plan ID #9)
- Helen A. Fineran & Carol A. Diaz et al., James & Donald Lopez et al., 14800 Leeland Road, Map 77, Grid A2, Parcel 2 (Concept Plan ID #10)
- Glenn E. & Cleopatra T. Oates, 14804 Leeland Street, Map 77, Grid A3, Parcel 3 (Concept Plan ID #12)

These parcels are all located in the Collington Branch stream valley and are largely forested wetlands located within the floodplain. The exception is Lake Collington which is a man-made pond constructed between 1964 and 1980 and as a used water treatment lagoon. There only structure located on the parcels is the former pump house associated with the water treatment lagoon. Based on historical aerial photographs dating back to 1957, the footprint of Lake Collington was previously under agricultural use. The rest of the project area has been forested since prior to 1957.

GreenVest searched Maryland's Environmental Resources and Land Information Network (MERLIN) data layers for Maryland Inventory of Historic Properties, National Register of Historic Places, and MHT Preservation Easements. None of these features were identified on the Project properties.

We look forward to your review of this project. Please contact us at 410-987-5500 if you have any questions or concerns. Thank you for your time.

Sincerely,

Zachary Tyszkiewicz

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.

Date 12/15/2020

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